## BIENNIAL REPORT

OF THE

# COMMISSIONERS OF FISHERIES

AND THE

STATE FISH AND GAME WARDEN

OF

WISCONSIN.

1897-1898.



MADISON, WIS.:
DEMOCRAT PRINTING COMPANY, STATE PRINTER,
1899.





FISH HATCHERY AT BAYFIELD.

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#### COMMISSIONERS.

Name.	Residence.	Term expires.
The Governor ex-officio.		
Edwin E. Bryant, President	Madison	April 1, 1899.
W. J. Starr	Eau Claire	.: April 1, 1905.
Calvert Spensley, Sec'y and Treas	Mineral Point	April 1, 1903.
James J. Hogan	La Crosse	April 1, 1901.
Henry D. Smith	Appleton	April 1, 1899.
Currie G. Bell	Bayfield	April 1, 1899.
James Nevins, Superintendent	Madison.	
E. A. Birge, Secy, Madison.		
STATE FISH A	ND GAME WARDEN.	
James T. Ellarson	utoma	.May 15, 1899.

291 W75b 1897/1898

## REPORT OF THE

## COMMISSIONERS OF FISHERIES.

To the Honorable, the Legislature of Wisconsin:

Gentlemen:—The commissioners of fisheries of the state of Wisconsin, in compliance with the law prescribing their duties, present herewith a report of their transactions for the two years ending December 31st, 1898.

#### A. GENERAL STATEMENT OF TRANSACTIONS.

The two years included in this report have been a period of great activity on the part both of the commissioners and those in their employ. During this time a large and admirably equipped hatchery has been erected at Bayfield, and the operations of the hatchery maintained for many years at Milwaukee have been suspended and transferred to Oshkosh. Much labor has, therefore, been necessary in addition to the ordinary work of the commission.

The work of taking, hatching and distributing spawn and young and adult fish now extends throughout the year, and no sooner is the handling of one variety of fish completed than it is necessary to begin work upon another. The labors, therefore, of the commission are unceasing and make great demands on their employes for unsparing and efficient service. The commissioners are glad to give hearty commendation to the faithful services of all their employes, and especially of the superintendent, Mr. James Nevin.

#### B. DISTRIBUTION OF FISH.

The following table shows the number and kinds of fish and fry distributed in the waters of the state during the two years covered by this report:

Names of Species.	1897.	1898,
Brook trout.	1,949,000	1,902,500
Rainbow trout	1,191 000	1, 155, 000
Lake trout (fry)	10,000,000	7,512,000
Lake trout (fingerlings)	10,000	
Whitefish	18,000,000	3,000 000
Wall-eyed pike	23, 300, 000	53, 980, 000
Muskallonge	11,000,001	
Black bass	4,500	112, 200
White bass	9,115	23, 420
Totals	65, 463, 615	67, 685, 120

A detailed statement, showing the places where distribution was made, is appended to this report. Large as is this output the calls for fry and adult fish are continually increasing and the demands are far in excess of the number which the commissioners can possibly supply at present. Owing to the overcrowded condition of the Madison hatchery, the number of trout fry during the past two years has not been so great as in the past, but, with the increased accommodations afforded by the Bayfield hatchery, the number will rapidly increase.

#### C. STATEMENT OF APPROPRIATIONS AND EXPENDITURES.

Appropriation from January 1, 1897, to January 1, 1898	\$20,000 00
Special appropriation for Bayfield Hatchery, 1897	10,000 00
Appropriation from January 1, 1898, to January 1, 1899	20,000-00
The expenditures for the same period have been:	,
For the year, January 1, 1897, to January 1, 1898	\$30,100 08
For the year, January 1, 1898, to January 1, 1899	19,776 00

The accompanying account of the treasurer of the commission sets forth more fully the object, nature and distribution of the expenditures. The commissioners have made every effort to economize their resources and to obtain the largest results and full value for money paid out, and they feel that as much as possible has been realized from the funds which the state has entrusted to their care.

#### D. BAYFIELD HATCHERY.

In the last biennial report an account was given of the lands acquired by the state at Bayfield and the improvements, both temporary and permanent, made there. The legislature of 1897 appropriated \$10,000 for the building of a fish hatchery at this place. During the year 1897 this hatchery was built and was completed in time for use during the winter of 1897–8, although the building was finished at so late a date that it could not be filled with eggs. The hatchery building is large, commodious and beautiful, as will be seen from the photograph reproduced herewith. The walls of the lower story are constructed of Lake Superior sandstone. The front of the building is two stories high, containing offices on the lower floor, and accommodation for the family of the superintendent in the second story. The hatchery room, in the rear, is 50x80 feet in size, and is, therefore, capable of containing an immense number of eggs.

The water for supplying the hatching troughs is brought from the dam at Birch Run, described in the last report. This water has proved to be in quality and quantity all that could be desired for the hatching of food fish. The temperature of the water, as it comes from the pond on Birch Run is so low that the hatching of the trout is delayed beyond what would be the case were the water taken directly from the springs. This delay in hatching permits the distribution of the trout in the spring of the year at a time when it is both easy to place them in the streams and when there is sufficient food supply in the streams for the young fry.

To conduct the water from the dam at Birch Run to the hatching house, a wooden pipe 16 inches in diameter and 2,000 feet long was constructed and laid. The pipe is made of 2x4 hemlock pieces, and is firmly bound at intervals of two feet with heavy iron bands. The excavations for this pipe were difficult, owing to the sandy nature of the soil and the depth of the trench, which at some points was twenty feet deep. The cost of the pipe

line for excavating and construction and laying of pipe was \$2,543.92.

The cost of the hatchery was \$9,005.59. During the year 1897, \$1,837.34 were expended on other permanent improvements at the Bayfield hatchery. During the year 1898 there were expended on permanent improvements at the Bayfield hatchery \$2,363.78, of which sum \$1.180.04 represent the cost of the barn and ice-house, the balance being expended for other permanent improvements.

An area of about twenty-five acres around the hatchery has been graded and cleared of the innumerable stumps and logs with which it was incumbered when the commissioners took possession of the property. A beginning has been made in the construction of permanent ponds for adult fish on the lower grounds, adjacent to the hatchery. In 1896, a long flume was built through the grounds and divided into ponds for the reception of trout. This temporary structure is still in use, but the commissioners expect to continue the construction of permanent ponds banked with stone, which will take the place of this raceway. The accompanying map of the grounds shows the number, size and arrangement of the ponds as planned. Three of the ponds are now made and others will be added during the coming year.

#### E. OSHKOSH HATCHING STATION.

The report of the superintendent for 1897 shows that out of nearly 200,000,000 eggs of wall-eyed pike, which were collected in the spring of that year, and placed in the Milwaukee hatchery, only a little more than 23,000,000 were hatched and distributed. This was the first time that pike eggs had ever died at the Milwaukee hatchery. The cause of the death was undoubtedly the low temperature of the water, caused by the extension into deeper water of the intake of the Milwaukee waterworks. This effect of the low temperature of the water on the eggs of the

wall-eyed pike made it impossible for the commissioners to continue longer their work at Milwaukee. Accordingly they determined to establish a temporary hatching station at Oshkosh. The park board of Oshkosh offered the commissioners a site free of charge in Lake Park, and a wooden building 30x60 feet was erccted there during 1897, at a total expense of \$1,267.19. In this building were placed the wall-eyed pike eggs in the spring of 1898. Owing to low water in the Wolf river at the spawning season, the commissioners were unable to secure as many eggs as in the former year, collecting altogether 110,000,000, of which more than 50,000,000 were hatched and distributed. This proportion is a very favorable one and the Oshkosh hatching station is undoubtedly well adapted to the service which is expected of it. A considerable number of lake trout eggs will be transferred from the Bayfield hatchery to Oshkosh during the present winter, and, after hatching, distributed from Oshkosh. In this way the fry for the central and southern part of the state will be distributed more easily than from the Bayfield hatchery.

#### F. MADISON HATCHERY.

At the Madison hatchery ordinary repairs have been made sufficient to keep the property in good repair, including the replacement of sidewalks and the renewal of the bulkheads of the ponds. The supply of water at this hatchery has not increased during the past two years, though perhaps it has not diminished. In the years immediately preceding this report the supply of water declined rapidly and greatly. As a result of the continued diminution of water supply the ponds have become unable to maintain the breeding fish in the best condition, and their fatality has consequently diminished. The commissioners expect to transfer a considerable number of the fish to the Bayfield hatchery, where there will be sufficient room for their proper development, as soon as the ponds at Bayfield are constructed.

#### INLAND FISHERIES.

The inland fisheries are becoming more valuable each year. It is impossible to state their exact value or to approximate it with any degree of accuracy. Their value lies not only in the amount of food produced, but to a greater extent in the fact that they are a drawing attraction to the summer tourists, who come into this state to spend their summers and vacations in fishing and other recreations and lavishly spend their money while here. Excellent fishing in our lakes and streams also induces the summer resorters of Wisconsin to stay within the borders of our state in their search for recreation. The amount of money left within our borders on these accounts must extend into the millions of dollars annually. With an increasing number of wealthy people in the several large cities in and adjacent to our state; there is every reason to believe that this source of profit will increase in the future more rapidly than it has in the past. It is interesting to contemplate the vast amount of revenue the citizens of this state will derive from this source twenty-five years hence, if our lakes and streams are kept stocked with the better varieties of game fish, and the fish are given adequate protection by good laws rigidly enforced.

#### PHEASANTS.

In accordance with the statute of 1897, the commissioners have devoted much time and a small amount of money to the propagation of pheasants. It did not seem advisable to expend the full sum which they were authorized to expend by the act of the legislature, since the enterprise was a new one, and the commissioners were aware that there were many difficulties attending the propagation of these birds. The reports of the superintendent for 1897–8 will show what has been accomplished in this direction. The work has been more difficult that the

commissioners anticipated, and only a small degree of success has been reached up to this time. They trust, however, that the initial difficulties are now past and that a larger measure of success will attend their efforts in the future.

#### G. CO-OPERATION OF THE RAILWAYS.

The several railway companies of the state have rendered great assistance to the work of the commissioners by extending free transportation to the fish car and to the employes of the commissioners when engaged in the distribution of fish. The fish car, "Badger," traveled over the several railway lines in the state 18,725 miles in 1897, and 21,441 miles in 1898. If the commissioners had paid regular rates for this transportation, the necessary sum would have been a large portion of the amount appropriated for their use. The commissioners desire to make acknowledgment of the great service rendered them by the railroads of the state with so much promptness and courtesy.

Two of the railways of the state have especially co-operated with the work of the commissioners in the distribution of white bass. The C. & N. W. railway and the C., M. & St. P. railway each fitted up a baggage car with tanks suitable for the distribution of adult white bass, and during the spring of 1898 they co-operated with the commissioners: the commissioners catching and distributing the bass, and the companies furnishing these cars and their free transportation. Only a limited number of these adult fish can be carried in a car at one shipment, and the time during which they can be caught and shipped is short. By the simultaneous use of these two cars and the state fish car, "Badger," a much larger number of fish could be handled than when only one car was employed. More than 23,000 bass were transplanted in the state during the spring of 1898; a number much greater than has ever been distributed in one season before.

## H. LEGISLATION AFFECTING THE WORK OF THE COMMISSIONERS OF FISHERIES.

A bill was passed by the legislature of 1897, making a close time for fishing in the Great Lakes, and a similar bill, amendatory of this act has been prepared by a joint committee from the several states bordering the Great lakes, and is to be presented to this session of the legislature. Should this bill pass and should fishing be prohibited in the Great Lakes during the spawning season of the fall, the commissioners will be unable to procure the eggs of whitefish and lake trout from the fishermen as they have done heretofore. If fishing is prohibited during this season, the commissioners will be restricted for eggs to fish which are taken by the employes. The expense, however, of providing tugs and crews is so great that the commissioners will be unable to procure eggs in large numbers, and should they attempt to take the fish in large numbers, their action would necessarily result in the death of large numbers of fish during the spawning season. It may well be doubted whether the best method of preserving the fish of the Great Lakes is by establishing a close season, or by securing the taking of eggs from all fish caught during the spawning season, and providing a place where they may be hatched and from which they may be planted in the lakes from which they were taken. However this question of policy may be decided, it is right that the legislature should understand that the enforcement of the close season will render it necessary for the commissioners of fisheries to direct most of their work to the fish of the inland lakes, unless large appropriations are made to enable the commissioners to catch fish for spawning purposes from the Great Lakes.

The fisheries of the Great Lakes form an important industry, and are worth, at a low estimate, a million dollars per year to the state. They give employment to 1,500 people.

The beneficent results of stocking Lake Superior with white-

fish and lake trout from the Bayfield hatchery are already apparent in the increased catch of both species.

A second matter of proposed legislation, which may affect the work of the commission relates to free transportation on the railways of the state. Since the commissioners began their work, the various railways of the state have granted free transportation to the fish and to the fish car, and to the employes of the commission while engaged in the work of distributing fish. The commissioners would respectfully request that in any bill abolishing free transportation within the state, the fish car and the employes of the commission should be excepted. If, however, it seems wise to the legislature to require the commissioners to pay for this transportation, the commissioners would request an appropriation sufficient to defray this expense made. If the commissioners are required to pay transportation for the car out of the regular appropriation made for their use, their work will be very greatly reduced.

In conclusion, the commissioners would say that the sum of money now appropriated by law is sufficient to carry on the work of propagation of fish at the hatcheries already established; to make the ordinary repairs, and to improve, by degrees, the hatcheries, especially at Bayfield and Oshkosh. If, however, it should seem wise to the legislature to enact laws which will seriously increase the expenses of conducting the operations of the commissions, it is obvious that their work must be restricted, unless the necessary additional funds are appropriated by the legislature. Respectfully submitted,

EDWIN E. BRYANT,
E. A. BIRGE,
CALVERT SPENSLEY,
JAS. J. HOGAN,
WILLIAM J. STARR,
CURRIE G. BELL,
HENRY D. SMITH.
Commissioners of Fisheries.

## Report of Treasurer.

## TREASURER'S REPORT.

## STATEMENT FOR 1897.

	0		1
1897.	Dr.		
Jan. 1.	To balance on hand. Annual appropriation Special appropriation W. W. Warner, acct. whitefish sold. J. D. Latier for boat	20,000 00 10,000 00 44 00	\$30,100 08
	Cr.		
Dec. 31.	By salary, Jas. Nevin. Supt., 12 mos	\$1,883 30 770 00	\$2,653 30
	MADISON HATCHERY.		
	Salary, Valentine Maag, foreman, 12 mos Salary, Chris. Hutchinson, 12 mos Salary, Jas. Foy, 5½ mos Salary Frank Suthers, 5 mos Salary, Jas. Brissee, 3 mos Disbursements for sundry employmen Disbursements for fish food Disbursements, distributing fish Disbursements, propagation of pheasants Disbursements, propagation of pheasants Disbursements, postage, printing and stationery Telephone rent Disbursements for general supplies Miscellaneous expenditures	650 00 272 50 250 00 180 00 12 50 983 50 259 09 112 96 124 84 74 78 48 00 125 02	4,433 39
	MILWAUKEE HATCHERY.  Salary, John Maag, officer in charge, 7 mos Disbursements, collecting whitefish spawn Disbursements, gathering pike spawn Disbursements, distributing fish. Rent of hatching room. Rent of water. Disbursements for supplies.	704 52 350 40 148 51 300 00 300 00	2,397 52
	BAYFIELD HATCHERY.		
	Salary, Henry Sykes, foreman, 12 mos	360 00 157 50 120 00 1,184 82 184 20 113 00 196 07 724 24 800 64 9,005 59 199 96 4,669 26 367 62	\$19,785 46

## Report of Treasurer.

_Dec. 31.	Disbursements, distributing black bass. Disbursements, hatching muskallonge. Disbursements, distributing white bass. Disbursements, planting lake trout eggs, 1896. Disbursements, rep. & maintaining fish car. Disbursements, for premiums on insurance of buildings and fish car. Expenses, James Nevin, superintendent, 12 mos. Commissioners' expenses, 12 mos.	359 37 50 00 428 55 204 75
	Expenses over appropriations for year	\$31,259 94

## STATEMENT FOR 1898.

-			
1898.	Dr.		
Jan. 1.	To annual appropriation		\$20,000 00
	Cr.		
Jan. 3. Dec. 31.	By amount paid on December bills, 1897 By salary, James Nevin, superintendent, 12 mos Salary, Arthur Sykes, clerk, 12 mos	\$2,000 00	\$1,159 86 \$2,840 00
	MADISON HATCHERY.		
	Salary, Valentine Maag, foreman, 12 mos	600 00 280 00 75 95 965 53 254 96 138 62 118 83 141 26 327 08	\$3,867.98
	BAYFIELD HATCHERY.		
	Salary, Henry Sykes, foreman, 12 mos	529 00 270 00 120 00 175 00 175 00 140 00 320 46 361 22 315 99 211 54 601 65 108 19 1,180 04	

	OSHKOSH STATION.		
Dec. 31.	Disbursements, building hatching house	\$2,261 75 907 706 108 74	69 00 66 97
	By balance on hand Dec. 31st	\$19,976 24 \$20,000	90

## SUPERINTENDENT'S REPORT—1897.

To the Commissioners of Fisheries:

Gentlemen:—I give here following my annual report of the operations at the several hatcheries, of work performed in the different branches of fish culture, and the propagation of pheasants, under my supervision during the year 1897:

#### THE DISTRIBUTION.

The following table shows the number of the different kinds of fish distributed during the year:

Brook trout	1,949,000
Rainbow trout	1,191,000
Whitefish	18,000,000
Lake trout fry	10,000 000
Lake trout, yearlings	10,000
Wall-eyed pike	23,300,000
White bass (full grown)	9,115
Black bass	4,500
Muskallonge	1,100,000
Total distribution	55,563,615

#### MADISON HATCHERY.

We distributed from the Madison hatchery last spring 1,949,000 brook trout and 1,191,000 rainbow trout fry. The fry was unusually strong and healthy, which is accounted for by the fact that the eggs were hatched in much colder water than formerly when the water was taken direct from the springs into the hatching house. The loss of fry in the hatchery was so slight that it is hardly worth mentioning.

During the spawning season just past, two million brook and brown trout ova were taken at this hatchery. These eggs are in first-class shape and have done well throughout the season. In 1896 the number of eggs taken was one million greater than this year. For the past three years there has been a decrease each year in the number of brook trout eggs taken at the Madison hatchery, as compared with each previous year. I am unable to fully account for this. I notice, however, that we obtain a smaller average of eggs from each fish than in previous years. During the past five years, the average number of eggs per female fish each year was as follows: 1893, 538; 1894, 568; 1895, 675; 1896, 344; 1897, 202. I also observe that when we come to take stock each year in December and January we find a large loss in our breeding fish, for which we cannot account. We endeavor to keep a record of all fish which die from various causes each year, and of the number of fish that we place in each pond; and when we come to count the fish the following year we note the loss, for which we cannot account.

The number of trout in the ponds at this hatchery is as follows:

Brook trout, various ages over one year old	21,680
Brook trout, last year's hatch (estimated)	40,000
Rainbow trout, various ages over one year old	17,770
Rainbow trout, last year's hatch (estimated)	20,000
Brown trout, various ages over one year old	1,581
Brown trout, last year's hatch (estimated)	5,000
Total trout on hand, Madison hatchery	106,031

An average of about 4,000 dead fish are taken from the ponds each year.

We are carrying over the largest number of young fish, last year's hatch, that we have ever carried over in one year, excepting 1891.

We have instituted a new system of keeping account of the fish in the ponds. We open an account with each pond, and keep a record of the number of fish put in and the number taken out. An account of the number of dead fish taken from each pond is also kept. In this way we will be able to tell accurately the loss of fish of all ages, and note in which ponds and at what ages the loss is the greatest.

#### BAYFIELD HATCHERY.

I stated in my last annual report that we had laid down 15,000,000 lake trout eggs in the Bayfield hatchery. These eggs did remarkably well and ten million fry were hatched and planted. I am gratified to be able to state that this large number of fish was, with two exceptions, planted in excellent condition.

We have at this hatchery, as the product of the fall and winter spawning season, 9,425,000 lake trout eggs, 508,000 brook trout eggs and 3,000,000 whitefish eggs. These eggs are all in prime condition.

In the ponds at this plant we have:

Brook trout, various ages over one year old	17,024
Brook and rainbow trout, hatch of '96	22,000
Rainbow trout, two years old, taken from Madison hatchery	3,000
Total number of trout on hand, Bayfield	42,024

As you have visited the Bayfield hatchery several times during the summer and fall, you are familiar with the many improvements which have been made there. The large permanent hatching house has been finished, and the barn and ice-house are about completed. The barn will cost about \$500. It is neat and attractive and harmonizes nicely in appearance with the other buildings. The ice-house is 40x25 feet. It will have a refriger-



INTERIOR OF BAYFIELD HATCHERY.



ating chamber for keeping frozen fish, which will be used as food for the fish in the ponds.

The freezing of herring for fish food has been very satisfactory and successful so far. They are natural food for fish; and I do not doubt but our trout will continue to do well on them. We are able to grind them in our feed cutting machines without any waste.

#### MILWAUKEE HATCHERY.

One hundred and ninety million wall-eyed pike ova were collected last spring during the spawning season. The egg of the pike are the most delicate with which we have to deal. It is seldom that the fish culturist succeeds in impregnating more than fifty per cent of the eggs he takes. We were very successful this year in securing the male fish with which to fertilize the eggs, and with our improved methods of hatching we should have had 100,000,000 fry to distribute. The eggs cleaned up in the very best form, and in due time the eye of the fish could be distinguished. At this stage they began to die in the jars, and thence forward continued to die off in such large numbers that we distributed only 23,300,000 pike fry. In my last report to you I recommended that a cheap building be put up at Oshkosh for the purpose of hatching pike eggs, as the waters at this point are naturally adapted to pike. I am well satisfied now that if we had built such a hatchery last spring we would have had over one hundred million wall-eyed pike fry to distribute. This is the first year and the first instance that we have ever had any pike eggs die in the hatching jars in the Milwaukee hatchery after the eye of the fish was discernable. In previous years the loss in eggs in all cases occurred before the egg had reached that stage in which you could notice the eye of the fish in the eggs. Such losses, I have always held, were due to the scarcity of male fish; or because the milt of the males, which were usually small, was not sufficiently virile to produce strong, healthy impregnation. This year we had an abundance of excellent male fish, and 2 FISH.

the result, so far as fertilizing the eggs was concerned, was very satisfactory. Experiments made at the time the eggs were taken fully demonstrated this. In these experiments we held the eggs in the river from which the parent fish were taken for five days and had no loss in the eggs.

The loss of pike in the egg stage in Milwaukee I attribute to the low temperature of the water used in the hatchery during the time of incubation. Some two years since the Milwaukee water works began to take their supply of water from the new intake, and the temperature of the water which we now get for hatching is so low that the fish will not mature, but die in the egg. At no time while the eggs were in the jars did the temperature of the water in the hatchery go above 48 degrees F., which is the usual temperature of spring water in our state.

Twelve years ago I attempted to hatch pike eggs at the Madison hatchery in water which was drawn from one of the ponds at a temperature of 50, but the fish began to die in the egg, as they did at the Milwaukee hatchery last spring. At that time I fixed up a temporary place below the mill dam in Fourth lake, and transferred the eggs to this improvised hatchery, where I hatched them and thus saved the year's hatch.

On account of the close season in the state of Michigan, we did not collect any whitefish eggs on the west and north shores of Green Bay, where we have never failed to get a limited number heretofore.

December 7th, I went with a crew of four men to Long lake, Washburn county, to get inland-like whitefish eggs for the Milwaukee hatchery. We had twenty-seven gill nets and one pound net. In eighteen days fishing we caught only 560 fish, about 100 of which were females. The result of it all is we have no whitefish eggs in the hatchery this winter.

We have some 300,000 lake trot eggs in this hatchery which we collected at Waukegan, Ill. We did not attempt to collect lake trout eggs in Lake Michigan waters within the borders of Wisconsin, owing to the close season provided in our laws.

I have for several years recommended the abandonment of the Milwaukee hatchery, as we have never been able to get a sufficient number of whitefish eggs to warrant its maintenance. I would again make that recommendation at this time, as the limited number of whitefish eggs we are able to collect can be easily handled at the Bayfield hatchery.

#### WHITE BASS.

During the month of May we distributed 9,000 full grown white bass. These were, for the most part, planted in summer resort lakes convenient of access from railroads. We could have increased the total output considerably, but we had other work of distribution to attend to, and it was thought advisable to cut down expenses, so we discontinued the work.

#### BLACK BASS.

At the meeting of the board, September 10, you instructed me to make as large a distribution of black bass as possible from the sloughs along the Mississippi river; and accordingly men were detailed in the work of collecting this species. However, owing to the lateness of the season, and the prevalent high water, in part due to the heavy rains about that time, a large distribution was rendered impossible, as the fish could not be secured. Four thousand five hundred black bass were planted.

In accordance with your instructions, Mr. Frank W. Cheney, who has had extensive experience in the work of hatching muskallonge while in the employ of the New York fish commission, and is an expert in this branch of fish culture, was placed in charge of the work of collecting and hatching muskallonge ova. Lost lake, in Sawyer county, was selected as the best waters for this work. Mr. Cheney reports that 152 muskallonge were taken. Of this number twenty-nine were productive females, from which he took 2,040,000 eggs. The percentage of eggs hatched varied in different instances from 60 to 90 per cent. One million one hundred thousand fry were planted, as follows:

In Lost lake, Sawyer county, 200,000; in Lake DeNeavu, Fond du Lac county, 200,000; in Green lake, Green Lake county, 700,000. It was thought advisable to plant the fry in these waters in large numbers, in order that a thorough test might be given them to ascertain whether muskallonge could be introduced into those waters by planting fry.

#### FISH CAR.

Four hundred and twenty-seven dollars were paid out for repairs on the fish car, which was painted, varnished and furnished with new wheels throughout. The trucks were also overhauled and put in first-class condition. Barring accidents, it will not be necessary to make any additional expenditures for the car the ensuing year. Eighteen thousand seven hundred and twenty-five miles were traveled by the "Badger," 12,134 miles less than last year. The difference in mileage in the two years is due to the large distribution of black bass made in 1896. Eight hundred and thirty-six meals were served at a cost of 14 cents each.

#### PROPAGATION OF PHEASANTS.

Pursuant to your instructions, sixteen dozen Chinese and English pheasant eggs were purchased of Mr. H. F. Bosworth, a breeder of pheasants at Hartford, Wis., at a cost of \$2.40 per dozen. The eggs were placed under domestic hens by Mr. Maag, who had charge of the work.

One hundred and thirty-seven chicks were hatched, which thrived and apparently did very well until three weeks old. At this age they began to die. An examination showed that they were infested with lice, contracted from the hens which hatched them. From this and various other causes they continued to die until the time of planting them arrived, when there were but seventeen birds left. Two of these were liberated on the grounds of the Madison hatchery, and the remaining fifteen birds were taken to Bayfield and released on the hatchery grounds at that point. The cost of this work was \$113, the greater part of which

was expended for coops and pens, which we have on hand for use this year. With the experience gained through last year's work we hope to have better luck with the pheasants this year.

Our expenditures of money during the past year have exceeded the appropriations for that period by \$1,159.86, which will leave us just that amount short for this year's work.

Last June I made an estimate of the cost of the work that we had laid out, and it was apparent to me at that time that we would be short of funds. I cut the wages of our regular men, including myself, to the amount of \$571 for seven months ending December 31st, hoping that we would be able to make both ends meet, but the cut was not sufficient.

#### THE PROPOSED HATCHING STATION AT OSHKOSH.

Last spring when I reported the loss of wall-eyed pike at the Milwaukee hatchery on account of the low temperature of water, I stated that it was useless to make any further effort to hatch pike at Milwaukee. A resolution was passed by your board instructing me to correspond with the officials at Oshkosh to see what could be done in the way of getting a site for a hatching station at that point, and to ascertain the cost of the necessary water for hatching purposes. I went to Oshkosh, met with the park board, and found that they were willing to give us the desired site in Lake park. I also entered into correspondence with the manager of the water works company. The water works do not belong to the city, but to a private company. I will lay before you the correspondence I have had with the city officials and the water works company.

During the ten or twelve years that we have collected pike eggs on the Wolf river we have never failed to collect from 150, 000,000 to 200,000,000 eggs annually. In my opinion, there is no question but the water in Lake Winnebago is perfectly adapted to the hatching of pike eggs; and I believe I can safely assure you that the output of pike fry will not be less than 100,000,00 per year if you transfer the Milwaukee plant to Oshkosh.

If you see fit to use the station at Oshkosh for hatching lake trout or whitefish, they can be hatched as well at Oshkosh as at Milwaukee. You will also be able to hatch several millions white bass fry each year, and if you desire at any time in the future to propagate black bass in ponds, the park board has signified its willingness to give us the use of the necessary grounds and to permit us to build ponds for that purpose. In this connection, I would say that those seasons that we have taken white bass from the mouth of the river at Oshkosh we have always found from twenty to seventy-five large black bass (small-mouthed species), full of spawn, in our nets each morning, affording an excellent opportunity to get breeding fish at little expense. These fish were coming on to the gravel beds to spawn.

Jas. Nevin, Superintendent.

Madison, Wis., January 2d, 1898.

### SUPERINTENDENT'S REPORT-1898.

To the Commissioners of Fisheries:

Gentlemen:—It is with considerable pleasure and satisfaction that I submit to you my report of the work done under your direction, and the distribution of fish from the several hatcheries during the year 1898.

The species of fish and the number of each distributed from each hatchery was as follows:

#### MADISON HATCHERY. Brook trout ..... 1,574,000 ..... Rainbow trout ..... 1,155,000 150,000 ..... Lake trout ..... 2,879,000 BAYFIELD HATCHERY. 328,500 ..... Brook trout ..... Lake trout ..... 7,362,000 ..... Wall-eyed pike ..... 11,380,000 Whitefish ..... 3,000,000 ..... 22,070,500

#### OSHKOSH STATION.

Wall-eyed pike  Full-grown white bass from Wolf river and Lake Win-	 42,600,000
nebago	23,420
Black bass	 112,200
Total distribution, 1898	 67,685,120

#### MADISON HATCHERY.

From the Madison hatchery we have distributed, as is shown in the above table, 1,574,000 of the brook and brown trout varieties, and 1,155,000 rainbow trout, also 150,000 lake trout.

The greater part of the rainbow trout were planted in the large streams or their tributaries in the north half of the state. Reports received from parties who planted the fish show that with hardly an exception both the brook and brown trout were planted in excellent condition. The loss of fry in the hatching troughs was small; at the same time the fry were not as strong and healthy as the fry planted last year from this hatchery. The fry placed in the rearing ponds have not done as well as last year.

The annual count of fish in the ponds at this hatchery shows the number of fish on hand to be:

Brook trout, one year old, hatch of '98, (estimated)	15,000
Rainbow trout, one year old, hatch of '98, (estimated)	10,000
Brook trout, two years old, hatch of '97	31,872
Rainbow trout, two years old, ('97)	8,972
Brown trout, two years old, (estimated)	4,500
Brook trout, various ages, three years old and over	22,518
Rainbow trout, three years old and over	15,589
Brown trout, three years old and over	1,199
Whole number of fish in ponds	109,650

A recount of the fish in some of the ponds has been made this fall, and we find there is an enormous loss in most of the ponds recounted. This loss is, for the most part, due to cannibalism, notwithstanding the care we have taken in sizing the fish, putting those of about the same size in the same ponds. Minks, turtles, snakes and fish hawks also destroy a large number of fish. We take all reasonable precautions to prevent these and

other losses which might occur, and I do not know of any way in which we could increase our vigilance in this matter. The following tables show in detail the losses in the ponds which have been recounted.

## Divisions One and Two of Raceway No. 2.

These ponds contained brook and rainbow trout, hatch of "97," and were combined in counting.

No. of trout placed in the ponds		22,000
No. of dead fish removed during year	2,258	
No. of live fish taken out	13,847	
Loss, unaccounted for		
		22,900
Per cent. of unaccounted loss		.29

1,723 of the dead fish removed as per above table died during epidemic in those ponds during the month of March.

## "Ponds Nos. 12 and 13."

These ponds contained brook trout three years old, and were counted together.

No. of trout placed in the ponds	19,618
No. of live fish taken from the ponds 12,923	
No. of dead fish removed from ponds during year 1,164	
	19,618
Dom cont. of unaccounted loss	0.0
Per cent. of unaccounted loss	.26

During the month of May, two usually heavy rain storms occurred which, for the first time in the history of the establishment, overflowed the four ponds covered by the above tables. Although few indications were found that fish had escaped in this way, there can be no doubt that there was some loss on this account.

## "Third Division of Raceway No. 2."

Rainbow trout, three years old.

No. of fish placed in the pond	3,050
110. Of dead fish femoved during year	0 080

#### Pond No. 6.

This pond contained brook trout two years old (hatch of "'97").

No. of fish placed in the pond.	2,729
No. of live fish taken out	29
and the state of t	18
	2,789
Per cent, of loss unaccounted	

#### Ponds Nos. 7 and 8.

These ponds contained brook and brown trout three years old and over, and were combined in counting.

No. of fish placed in the ponds		5,379
No. of live fish removed in recounting		
No. of dead fish taken out during year		
Loss, unaccounted for	1,542	
		5,397
Per cent, of unaccounted loss		.28

A careful account of the dead fish taken from the ponds has been kept. In all 6,883 dead fish have been taken from the ponds during the year.

A considerable loss occurred among the "'97" hatch of brook trout at this hatchery during the month of April. This was at the time the snow was melting, but whether the snow had anything to do with it or not, I am unable to say. We have never before had a loss of this kind at that season of the year. One thousand, seven hundred and twenty fish died during the two weeks that the epidemic prevailed. We also had quite a loss of one-year old brook trout at the Bayfield hatchery. The cause of this loss was evidently the same as the cause of the loss at the Madison hatchery. It occurred at the time the snow water was coming down Birch Run freely. On account of the water keeping roily so long, an accurate account of the loss at Bayfield could not be kept. The loss will not be known until the fish in the ponds are counted again, and then only approximately.

Although the fry retained at the Madison hatchery has done

well throughout the year, we will not have as many brook trout yearlings next spring as we had last.

During the spawning season just closed, 2,144,500 brook and brown trout eggs were taken. The number of unfertile eggs removed from the hatching trays has been very small up to date, and present conditions indicate a large percentage of hatch.

The average number of eggs taken from each female of the different ages was as follows:

Brook	trout,	hatch of "'97"	339.
Brook	trout,	three years old	327.
Brook :	trout.	four years old and over	815.

The general average of eggs taken from all ages was 378 per each female fish from which spawn was taken.

We found a large number of unproductive females in our stock of brook trout breeders at the Madison hatchery this fall. Of the whole number of brook trout females, four years old and over, 24 per cent. were barren; and of those three years old, 45 per cent. were barren. On this account we have not as large a number of brook trout eggs as we expected. I am unable to account for this unproductiveness. Correspondence with several other hatcheries does not reveal similar conditions elsewhere.

In handling our stock of fish from year to year, it is noticeable during the past few years that they do not attain to the size they formerly did, and they grow very slowly.

During the past two years many necessary repairs and improvements have been made at the Madison hatchery. The buildings have been repainted, sidewalks and ponds repaired, etc. Further repairs to the ponds and bulkheads will be necessary during the year.

#### PROPAGATION OF PHEASANTS.

I regret having to report another unsuccessful year in rearing Chinese and English pheasants, owing to several unfortunate circumstances, chief among which was the unfertility of the eggs. We purchased three hundred eggs, of which number one

hundred thirty-eight birds were hatched, a part of which were dead when removed from the nests. An examination of the eggs which did not hatch showed that they had not been fertilized, or if fertilized had been improperly handled before being placed under the hens. From time to time dead birds were found in the coops, and in most cases no cause could be assigned for their death.

When the birds were about three weeks old they were transferred from the coops and small yards to a large pen, six rods square, which we constructed for them. The siding of this pen is of boards for the first three feet from the ground, on top of which six feet of woven wire fencing is placed, making the pen nine feet high. As the birds became older, on one or two occasions a stray bird was found on the outside of this pen, which with other circumstances satisfied us that we lost some birds which escaped through the wire meshes of the pen. Evidently the birds would fly (and they can fly very young) up agains the screen, catch their feet on the wire and force themselves out through the meshes.

We have twenty-six birds left as the result of the season's hatch. These will be wintered over, and we hope to secure a part of the eggs for next year's hatch from them.

#### BAYFIELD HATCHERY.

The distribution of fish fry from the Bayfield hatchery during the year was as follows:

Wall-eyed pike	11.380,000
Lake trout	7,362,000
White <sup>e-t</sup> ,	3,000,000
Brook aut	328,500
Total distribution	22 070 500

The brook trout were distributed to streams along the C., St. P., M. & O. Ry from Bayfield to Eau Claire, and streams within distributing distance of that line of road in that section of the state.

The pike were planted in various inland lakes in the northern part of the state and in Chequamegon Bay.

Five million lake trout were planted in Chequamegon Bay, and two million were planted in Lake Michigan and Green Bay off from established fishing points. Without an exception, the fish from this hatchery were reported planted in good condition, and without any loss whatever.

The feeding of an extensive stock of trout with beef liver is a large item of expense at most trout hatcheries. At the Bayfield hatchery liver will form but a very small part of the food for our stock of trout. Last season I conceived the idea of feeding lake herring to our trout. Fish is the natural food of fish, and we find that herring make an excellent food for trout. These fish can be bought cheap in the fall and kept frozen during the winter. In fact, we can feed herring to our trout from November to the following May. We have a refrigerator built and expect to have frozen fish all summer; and if we cannot keep the fish during the hot summer months, another food, in the form of suckers which run up the creek from Chequamegon Bay during the month of May, is at our disposal. These fish can be taken by the thousands and corralled in pens to be used as we need them during the summer months. Large meat cutters, run by water power, are used at both the Madison and Bayfield hatcheries to grind the food for the trout. These machines are so constructed that food can be made coarse or fine as desired for any age of fish. They readily cut the herring which we feed the trout.

Extensive improvements have been made at this hatchery during the year. These consisted mainly of grading and leveling the grounds, building ponds and laying three hundred feet of wooden pipe, two feet in diameter, to conduct the water to the new system of ponds which we have commenced to build. The details of arrangement and construction of additional ponds is needed, and for other improvements hav

been perfected, and plans for this purpose drawn; making a harmonious arrangement in every respect.

There will be twenty-five ponds in all. One large pond, which, when completed, will cover three acres of land and have six feet of water at its bulkhead, will be built. A series of twenty-three smaller ponds has been planned, three of which have been built. These ponds will be constructed to meet the requirements of the different ages of trout; and provision will be made for drawing all the water out of each of them as occasion may require for cleaning and scrubbing the ponds, or removing the fish they contain. The sides and bottoms of the ponds will be made of cobblestone, thus securing permanency, which cannot be obtained when ponds are built of wood. The water supply of each pond will be taken in at one end and discharged at the opposite end of the pond, thus giving a heavy current of water throughout the entire length of each pond. An excellent feature in the construction of the ponds lies in the provision made for drawing the water off from every individual-pond without effecting the water supply of the others.

The Bayfield hatchery is very fortunate in its location. A large portion of the hatcheries established in the several states and the United States have been located, without due regard for the requirements of such an institution. In due time, such hatcheries usually out-grow their facilities, and it becomes necessary to transfer the work to some other point and perhaps with like results. But such is not the case at. Bayfield. On the contrary, an abundance of land and water have been provided to meet the requirements of all time to come.

Bayfield is the fishing center of Lake Superior in Wisconsin. This fact gives the Bayfield hatchery an additional advantage which is, perhaps, not possessed in so great a degree by any other point on the great lakes. It being close to the fishing grounds enables the fish commission to send its

agents out among the islands to the several fishing grounds and take the spawn, which is laid down on the trays in the hatchery on the evening of the day on which it is taken from the fish; thus insuring the hatching of a larger percentage of eggs than could be hatched if the eggs were kept on the fishing grounds several days before they could be sent to the hatchery. Good facilities for transporting with despatch the pike eggs collected at various points in the northern part of the state are also afforded.

The capacity of the hatchery is something enormous. The hatching room is 50 x 80 feet. At present only about twothirds of this room is used for hatching fish. There are thirty hatching troughs with eighty-four trays in each trough, making, in all, two thousand five hundred-twenty travs in use. On these travs at the present time are laid eighty-four and one-half bushels lake trout eggs. The eggs of the lake trout will average eight thousand to the quart, or 256,000 to the bushel, giving a total of 21,632,000 lake trout eggs in the hatchery. There are also 1,050,000 brook trout eggs and 3,000,000 white fish eggs in process of hatching; making a grand total of 26,632,000 ova in the hatchery at the present time. We also expect to lay down from 25,000,000 to 50,000,000 wall-eyed pike ova in this hatchery in the spring. All the eggs in the hatchery are in prime condition at this writing. I believe it will be many years before the Bayfield hatchery will be duplicated in points of equipment and capacity for handling vast quantities of ova and fry.

From the time it was started, the hatchery has been in charge of Mr. Henry Sykes, a trusted employe, who has grown up in the business from boyhood; having bee in the service of the fish-commission for sixteen years. He is thoroughly versed in the work of fish culture.

#### OSHKOSH STATION.

At the last annual meeting of the board, a committee was appointed to attend to the erection of a building to be used for hatching pike and other fish at Oshkosh. The committee advertised for bids and several were received. The contract was let to the lowest bidder. The building was completed in time to hatch the spring collection of pike eggs as intended.

I fully expected that we would hatch one hundred million pike fry at this station last spring, but fell considerably short of that number. We were greatly disappointed in the matter of securing the parent fish at Gill's Landing where we had all our apparatus for that purpose. We had set twice as many nets as we ever did before but notwithstanding this fact, we caught, altogether, only 1,583 fish as against 3,276 caught in 1897 and 3,238 in 1896. On account of low water, the fish spawned further down the river than usual, and did not reach the point where our nets were set. It is not probable that this will occur again in many seasons. However, under similar circumstances in the future, we will place another crew of men further down the river so as to make sure of getting a supply of fish. We collected at Gill's Landing some forty million pike eggs.

To guard against any possible fortuity which might occur to prevent us from getting a large supply of pike ova at Gills Landing last spring, I had previously sent a crew of men to "T" lake, Sawyer county, and had nets placed in those waters before the ice went out. At this point we secured a superior lot of fish and from them a large number of excellent eggs. Altogether we collected 110,000,000 pike ova, and distributed some 54,000,000 pike fry. This fry was generally planted in inland lakes, and with the exception of perhaps five or six shipments, in good condition.

#### WHITE BASS.

Acting on your suggestion, the C. & N. W. Ry. Co. and the C., M. & St. P. Ry. Co. fitted up baggage cars to transport full-grown white bass from Winneconne and Oshkosh to the summer resort lakes along their lines. These cars, together with the "Badger," were kept on the road constantly for three weeks or during the run of fish. There were planted 23,420 white bass.

The weather was cool during the entire time we were engaged in this work, and we were careful not to crowd the fish into the tanks. The fish carried much better than ever before.

There is no question in my mind but that this is a good work, and in a few years we will have this species of fish in most of our summer resort lakes, for which they are particularly suited. The waters in which they have been planted are, I believe, naturally adapted to them.

#### BLACK BASS.

For several years we have collected small black bass from the sloughs and ponds along the Mississippi river for distribution to inland waters.

Last spring the water in the Mississippi river was very low until late in the season; and, as the bass were nearly done spawning before the water raised sufficiently for them to run up into the sloughs, there was not as many bass perished in those waters this year as in some years past. The work of rescuing the bass from the sloughs should be continued each year, notwithtanding it meets with objection from some people along the river. These people object to our taking the bass away from the sloughs and planting them in inland waters. They contend that they should be planted in the Mississippi river. They claim that we do not confine our



2. Series of Ponds.

selves to taking the fish from the sloughs, but intimate that we steal them from the river for other people's benefit, etc.

Last summer while we were doing this work at Prairie du Chien, a petition was circulated and a number of signatures secured, protesting against our taking the fish from the sloughs. As is usual in signing petitions, not a single signer on that petition took the trouble to try to verify the statements made in the petition or to ascertain whether they were true, which any of them could have done in two-hours time. The petition was presented to them, and in as much as it contained nothing inimical to their individual interests they signed it as a personal favor to the party who circulated it; and in some instances, perhaps, to get rid of him. If they had taken the trouble to investigate the matter, they would be ashamed to have it said that their names were on the petition.

The expense attached to the collection and distribution of bass from the sloughs is considerable. In the park at Oshkosh, where we already have a hatching station, there are two small lakes which can be used to good advantage for the propagation of bass; and I would recommend that steps be taken next spring to utilize the lakes for the purpose stated, The breeding bass can be collected at the mouth of the Fox river where it empties into Lake Winnebago at Oshkosh. I am satisfied that we can hatch and distribute more bass than we have in the past and do the work for less money that it costs us to take them from the Mississippi river sloughs. The lakes in the parks at Oshkosh are natural bass waters, and the city authorities are willing that we should use the pends for the propagation of fish in any manner that we see fit.

#### OUTLYING WATERS.

The rewards of our efforts to stock our out-lying waters with whitefish have not been as great as we would like for reasons which are readily apparent, chief among which, the catching and marketing of small, immature fish. I need not tell you that thousands of under-sized whitefish have been caught each year in the past, particularly during the month of June, in small meshed pound nets and marketed. This instrument of destruction, illegally used, is largely responsible for the dearth of whitefish in our great lakes today. Some years since, I saw as high as 2,500 pounds of whitefish caught at the mouth of Big Sturgeon in a pound net at one lift in the month of November, and there were not fifty pounds of "No. 1" whitefish in the entire lot.

If all the small whitefish which have been caught and marketed during the past twelve years, contrary to law, had been left in the waters to mature, we might have been able to tell of the grand success of planting whitefish fry in the great lakes instead of having to admit that we have not received adequate returns on our investment in this great work.

What I have said of depleting our waters of whitefish by catching the young, immature fish is also true of lake trout, though the manner of taking the lake trout is different. During the last few years, the fishermen have found it profitable to set small meshed gill nets to catch chubs, bluefin and herring. With these small-meshed nets they have caught large quantities of undersized lake trout. This should not be permitted to continue if we are to keep the lake trout in our waters and on the market as a commercial fish for future generations.

I am pleased to be able to report an increase in the catch of whitefish this season over several previous years in both Lakes Superior and Michigan and Green Bay.

#### CLOSE SEASON.

The close season law greatly interferes with the collection of spawn on Lake Michigan, and prevents the collection of as large a number of eggs as would otherwise be possible for the hatcheries. It is a serious drawback in our work and does not achieve the purpose for which it was enacted; for, granted that it protects the large fish for the time being, the eggs which are deposited by the spawning fish are practically wasted. I contend that not one egg in a million deposited by the whitefish, lake trout or pike in the unaided natural way is fertilized; and even if a greater number were fertilized, the suckers, lawyers and other coarse fish which follow the lake trout and whitefish upon their beds would and do devour them, excepting such as may fall into inaccessible cracks and crevices in the rocks and among the stones.

Last fall I watched at various times the spawning beds of brook trout upon which from twenty-five to thirty trout could be seen at one time. I had a position within ten feet of the spawning bed, and watched them several hours each day for a week. During this time I did not see a single instance of spawning in which I thought it possible for a male trout to fertilize a single egg deposited by the females. I afterwards examined the beds, but found only one egg in all the time I spent in this work. I concluded that the trout devoured the eggs as soon as deposited. To satisfy myself on this point, I took with me a quantity of eggs from the hatchery. On arriving at the beds I waded into the stream, and with a small scap net placed the eggs on the nests about as I thought they would be placed by the parent fish naturally. I had hardly reached the bank of the stream again before the fish were back on the beds. They at once discovered the eggs which I had laid upon the nests, and like a pack of hungry wolves set to work to devour them. With their noses in the sand and tails out of water they turned over every stone and grave' in

energetic search of the eggs; and in less than twenty minutes there was not an egg on the beds.

Whitefish will devour their eggs in like manner. In fact all species will eat the ova of their own kind as well as that of all other species.

It is the mission of the fish culturist to save a portion of the infinite mass of fish ova wasted by the means I have outlined, to fertilize the ova thus saved, and eventually plant in the waters the vast number of fish represented by the eggs saved, thus maintaining the supply of food fish in our waters.

To many people, hand propagation of fish is a species of sacrilege. It is an impeachment of nature and her provisions for the survival of the genus fish. Not so. Nature's provisions for the survival of the fish families were adequate until man entered upon their destruction with improved fishing apparatus, and wastefully and extravagantly pursued his work of devastation until now many species are wellnigh extinct. It is due to man's folly that our waters are barren, and it is left for him to again make them productive. Nature has provided the means. He has only to exercise in this case those qualities of forbearance and wisdom by which he has accomplished many great and wonderful things in the past.

I hold that there is but one way of increasing the supply of food fish in the great lakes under present conditions, i. e., by planting large numbers of lake trout and wall-eyed pike fry from the state hatcheries, and preventing the catching and marketing of small, immature fish. A close season, by stepping between the fish culturist and the parent fish during the spawning season, prevents the saving of millions of fish ova and the planting of millions of fish fry back into the waters.

It is desirable that uniform legislation for the protection of the commercial fish of the great lakes be enacted by the legislatures of the several states bordering upon those waters. Steps looking to this end have already been taken, and if

they end in securing good laws and those laws are well enforced throughout the entire great lake waters, the result must be beneficial and will be generally productive of good results to the fishing industry. The key to such legislation should be to prohibit the catching and marketing of small immature fish.

#### CONCLUSION.

Appended hereto are tabular statements showing in detail the distribution of fish during the biennial period, 1897 and 1898.

Pursuant to the provisions of section 7, chapter 222, laws of 1897, two barrels of whitefish (one hundred ninety fish) which were injured while taking spawn at Long Lake, Washburn county, in the fall of 1897, were delivered to Robert Miller, Supt. Barron county poor farm, Barron, Wis., for use at that institution. This is the only case in which it was found necessary to dispose of fish under the provisions of this section during the two years covered by this report.

In all departments of work I have endeavored to keep down expenses as much as possible; and I believe that every article purchased was absolutely necessary to the proper performance of the work in which it was used.

The enforcement of the fish and game laws is not connected with the fish commission's work. It has, however, a direct bearing upon it and the commission has at all times manifested a lively interest in this branch of fish propagation. Credit is due to Hon. Jas. T. Ellarson, state fish and game warden, and his deputies for the efficient service they have rendered the state in carefully and closely attending to the duties imposed upon them by law. The increased catch of whitefish in Lakes Superior and Michigan and Green Bay I attribute very largely to their activity in preventing the marketing of small immature fish.

On the whole, the work of the board is in excellent form, and I believe the commission is in better position to fulfill the mission for which it was organized than at any other time in its history.

I gratefully acknowledge the kind consideration accorded me at all times by the several members of the board. I shall zealously endeavor to merit a continuance of your confidence, and to that end I pledge my best efforts to the work entrusted to me.

JAS. NEVIN,

Superintendent.

Madison, Wis., January 2, 1899.

# RROOK TROUT DISTRIBUTION, 1897.

Name and Address of Applicant.	Where Planted.	No. of Fish.
ADAMS COUNTY— R. Thuel, Necedah S. W. Pierce, Necedah	Big Roch-a-cris Creek Witters Creek Risk Creek	3,500 3,500 3,500
ASHLAND County— C. A. Lamoreaux, Ashland	Brunsweiller Creek Trout Brook Spring Creek Butternut Creek	7,000 7,000 7,000 7,000 14,000
BARRON COUNTY— F. E. Bailey, Rice Lake. A. A. Gabriel, Rice Lake Mark Eubanks, Rice Lake N. W. Heintz, Rice Lake W. H. Brandt, Barron DeWitt Post, Barron T. W. Borum, Barron John Post, Barron J. A. Anderson, Dallas D. A. Russen, Dallas E. A. Pelton, Dallas W. S. Foster, Dallas	Miller's Creek	35,000 3,500 3,500 3,500 3,500 3,500 7,000 3,500 3,500 3,500 3,500
BUFFALO COUNTY—  Ed. Ford, Mondovi. Jas. T. Bronlee, Mondovi. Ed. Turner, Gilmanton. Henry Davis, Gilmanton Myron Amidon, Mondovi. H. M. Nogle, Mondovi. Jos. Pabst, Mondovi.	Hoyt Creek Hunter Creek Turner Creek Davis Creek Bennett Valley Creek Fifteen Mile Creek Dutch Creek	45,500 3,500 3,500 3,500 3,500 7,000 7,000 7,000
CHIPPEWA COUNTY— F. L. Stevens, Chippewa Falls L. Vincent, Chippewa Falls O. C. Detloff, Chippewa Falls Thad. C. Pound, Chippewa Falls L. Hattimer, Bloomer E. H. Rodgers, Bloomer	Little Beaver Creek	35,000 7,000 3,500 3,500 7,000 7,000 3,500 3,500 35,000
CLARK COUNTY— F. P. Kipp, Lindsey G. R. Kippf, Neillsville Chas. Servanty, Neillsville Ed. Crosset, Neillsville	Visno Creek	3,500 3,500 3,500 3,500
CRAWFORD COUNTY— Chas. Enke, Prairie du Chien J. A. Dworak, Wauzeka Aug. Kesler, Wauzeka. C. W. Lathrup, Barnum J. A. Hays, Gays Mills	Grand Grey Creek Plum Creek Grand Grey Creek Shaw Branch Myres Branch Bacon Creek Copper Creek Wells Creek	7,000 3,500 3,500 3,500 3,500 3,500 3,500 3,500 3,500

Name and Address of Applicant.	Where Planted.	No. of Fish.
	1	
CRAWFORD COUNTY—Continued. † D. R. Lawrence, Petersburg	Cow Creek	3 50
W. S. Manning, Soldiers' Grove	Johnson Creek	3,50 7,00
	Trout Creek	3,50
J. O. Davidson, Soldiers' Grove	Soldiers' Grove Creek Knapp's Creek Bear Creek	7,00 3,50
T. Garrity, Soldiers' Grove	Bear Creek	7,00
M. Hendrickson, Soldiers' Grove	Johnson Creek	7,00
DANE COUNTY-		70,00
O. E. Stamm. New Glarus	Branch of Sugar River	3,50
W. C. B. Weltzen, Primrose	Branch of Sugar River	3,50
J. E. Stanford, Black Earth	Reeve's Creek	7,00
Jas. Schaffer. Mazomanie	Boyle Creek	7,00
T. J. Hughes, Black Earth	Olmer's Creek	7,00
O. E. Stamm, New Glarus W. C. B. Weltzen, Primrose. J. E. Stanford, Black Earth H. H. Willard, Mazomanie. Jas. Schaffer, Mazomanie. T. J. Hughes, Black Earth Geo. Thatcher, Black Earth D. D. Logan, Black Earth	Erby Creek	3,50
D. D. Logan, Black Earth	Mann Creek	3,50
OOUGLAS COUNTY—		42,00
Antoine Gordon, Gordon	Ox Creek	7,00
OUNN COUNTY—	Invina Cuck	3,50
W. H. Bailey, Menomonie	Irving Creek	3,50
E. J. Newsome, Menomonie	Brush Creek	3.50
Ole Berg, Menomonie	Loving Creek	3,50 7,00
J. H. Stout, Menomonie	Little Elk Creek	
EAU CLAIRE COUNTY-		21,00
J. T. Joyce, Eau Claire	Nine Mile Creek	-3,50
B. S. Phillips, Eau Claire	Elk Creek	3,50 3,50
b. b. 1 mmps, Eau Claire	Nine Mile Creek.  Elk Creek Rock Creek Coon Creek Otter Creek Clear Creek	3,50
A. A. Cutter, Eau Claire	Otter Creek	3,50
M. Cousins, Eau Claire	Clear Creek	3,50 3,50
M. Cousins, Eat Claire	Lowe's Creek Beaver Creek Coon Creek	3,50
C. Volkman, Eau Claire	Coon Creek	7.00
Henry Russell, Augusta	Bridge Creek	7,00
COND DU LAC COUNTY—		42,00
OND DU LAC COUNTY— E. C. Reichmott, Ripon	White Creek Silver Creek Snake Creek Roy Creek	3,50
H. P. Cody, Ripon	Silver Creek	3,50 3,50
L. B. Reed. Ripon.	Roy Creek	3,50
T. S. Chittenden, Ripon	Dakin's Creek	3,50 7,00
E. J. Burnside, Ripon	Know's Creek	7,00
Chas. F. Geisse, Fond du Lac	Dakin's Creek Know's Creek Parson's Creek Camp Ground Creek E. Br'ch of Fond du Lac Riv.	3,50 3,50
	E. Br'ch of Fond du Lac Riv.	7,00
G. H. Miller, Fond du Lac S. B. Amory, Fond du Lac	nead: Sheboygan River	7,00
M. J. McCullough, Campbellsport	Virgin Creek	3,50 3,50
H. Durand, Fond du Lac	Byron Creek	3,50
· ·	Empire Creek	3,500
J. J. Gromme, Fond du Lac	Gill's Branch Haskin Creek	$\frac{7,00}{3,50}$
Wm. Wedde, Campbellsport	Hahn's Creek	3,500
Robt Denz Elmore	Elmore Stream	3,500
Wm. Klumb, Elmore	Elmore Creek	3,500

Where Planted.	No. of Fish.
Block House Branch. Lucas Branch Gault Branch Sand Branch Big Spring Branch Cody Spring Seeley Branch Chitwood Branch Blue River Grant River West Brch., Blue River Dark Hollow Creek Badger Hollow Creek	7,000 3,500 3,500 3,500 3,500 10,500 7,000 7,000 3,500 3,500 3,500
Faith's Creek	3,500 3,500 3,500
Fennimore Branch Johnson Branch Johnson Brauch Fennimore Branch William's Branch McPherson Branch Willow Branch Milner Branch McKenzle Branch Boy Branch Borah Branch Walker Branch	3,500 3,500 3,500 3,500 3,500 3,500 3,500 3,500 3,500 3,500 7,000
Branch of Sugar River	136,500
Fitzsimmons' Creek Hewitt Branch Rock Branch Brown's Branch Pitzimmons' Creek Head-waters, Blue River. Harris Creek Walnut Hollow Creek. Jones Creek Head. Pecatonica River Ox Hollow Creek. Angore Creek Harker Creek Harker Creek Harker Creek Harker Creek Harker Creek Harker Creek Head-waters, Pecatonica	3,500 3,500 3,500 3,500 3,500 3,500 3,500 3,500 3,500 7,000 3,500 3,500 3,500 3,500 3,500 7,000
Arnd Creek Hall's Creek Squaw Creek Snow Creek Allen Creek Douglas Creek and Tribs Hoffman Creek Van Hersett Creek	70,000 3,500 3,500 7,000 3,500 7,000 7,000 7,000 3,500 3,500
	Block House Branch. Lucas Branch Gault Branch Sand Branch Big Spring Branch Cody Spring Seeley Branch Chitwood Branch Blue River Grant River West Brch., Blue River Dark Hollow Creek. Head of Platte River Trainor's Creek Faith's Creek Fennimore Branch Johnson Branch Johnson Branch Johnson Branch William's Branch William's Branch McPherson Branch Milner Branch McKenzie Branch Day Branch Borah Branch Walker Branch Walker Branch Austin Branch Fitzsimmons' Creek Hewitt Branch Brown's Branch Fitzimmons' Creek Head-waters, Blue River Harris Creek Walnut Hollow Creek Jones Valley Creek Head-waters, Blue River Ox Hollow Creek Head-waters, Pecatonica  Arnd Creek Head-waters, Pecatonica  Arnd Creek Hall's Creek Squaw Creek Squaw Creek Squaw Creek Squaw Creek Squaw Creek Squaw Creek Allen Creek Booglas Creek Hoffman Creek Douglas Creek Hoffman Creek Hoffman Creek Hoffman Creek

Name and Address of Applicant.	Where Planted.	No. of Fish.
JEFFERSON COUNTY— C. C. Cashi, Palmyra E. R. Trippe, Palmyra L. A. Washburne, Palmyra	Scupernong Creek Minnehaha Creek Palmyra Springs Creek. Aurelin Spring Creek.	3,500 3,500 3,500 3,500 3,500
JUNEAU COUNTY— J. Nasbit, Wonewoc Henry Grimshaw, Elroy  C. E. Wolfenden, Wonewoc  J. E. Daly, Necedah  F. A. Reed, Necedah	Big Spring Creek Garwin Creek Boynton Creek Crossman Creek Wolfenden Creek Johnson's Creek Wris Creek Schoonover Creek Spring Creek	3,500 3,500 3,500 3,500 3,500 3,500 3,500 3,500
LA CROSSE COUNTY— O. Evenson, West Salem. John Trehoff, La Crosse. J. R. Jenkins, Rockland. James Hammon, La Crosse. M. Tourtellotte, La Crosse.  Henry Hell, La Crosse. Buttles and Pierce, Onalaska. F. C. Herrington, La Crosse.  Jas. McCord, La Crosse. A. Hirschheimer, La Crosse. Chas. Barber, Onalaska. Alex. Johnson, West Salem.  John Markl, La Crosse. Jas. J. Hogan, La Crosse. John Erickson, Rockland.	Halfway Creek Mormon Cooley Creek Big Creek Chipmunk Cooley Creek Auretz's Creek Kernz's Creek Smith's Creek Spring Cooley Creek Jostad Creek Clear Creek Mill Creek Halfway Creek N. Branch of Coon Creek. Ahrens Creek Mormon Cooley Creek Halfway Creek Gill's Creek Gill's Creek Mormon Cooley Creek Martin's Creek Jones' Creek Gill's Cooley Barr Mill's Creek Mormon Cooley Creek Tauschi Creek Tauschi Creek Fishback Creek Tauschi Creek Fish Creek Fish Creek	31,500 3,500 3,500 3,500 3,500 3,500 3,500 3,500 7,000 7,000 7,000 3,500
LA FAYETTE COUNTY—  Michael Derrick, Fayette E. T. W. Barnes, Darlington F. E. Bordner, Darlington L. A. Sandefur, Darlington Wm. A. Garden, Belmont	Finley's Branch Whiteside Branch Johny Creek Otter Creek Russell's Branch Burris' Branch Bewey Branch	3,500 3,500 3,500 3,500 3,500 3,500 3,500
LINCOLN COUNTY— J. P. Hughes, Tomahawk H. A. Atcherson, Tomahawk H. C. Hetzel, Merrill F. B. Gallagher, Merrill	N. Branch, Pine River	24,500 3,500 7,000 7,000 7,000

Name and Address of Applicant.	Where Planted.	No. of Fish.
LINCOLN COUNTY—Continued. Julius Thielman, Merrill	North Brch., Prairie River Barn's Creek Spring Creek Rocky Run N. Brch., Little Rice Riv	7,000 7,000 7,000 7,000 7,000
MARATHON COUNTY— Frank Kelley, Wausau. S. E. Dickenson, Wausau. Neal Brown, Wausau. F. W. Burt, Wausau. F. P. Corwith, Wausau. O. E. O'Dell, Wausau. John Creary, Wausau. B. N. Thomas, Wausau. J. T. Winkley, Wausau. R. W. Pinder, Wausau.	Kickbusch Creek Little Creek Plover River Eau Claire River Jim Moore Creek Little Rib River Big Rib River Bull Junior Creek Bear Creek Spring Creek	3,500 3,500 14,000 14,000 7,000 14,000 7,000 7,000 3,500
MARINETTE COUNTY— W. A. Brown, Marinette	Big Cold Spring Creek Outlet to Frying Pan Lake Outlet to Mountain Lake Water Cress Creek	7,000 7,000 14,000 7,000 35,000
MARQUETTE COUNTY— John Hays, Oxford  J. H. Coon, Oxford C. E. Pond, Westfield C. W. Daye, Liberty Bluff Wm. Guderjahn, Liberty Bluff. M. W. Phillips, Westfield Meinke & Behn, Westfield	Road Crook	3,500
MONROE COUNTY— North Vice, Cataract. D. C. Hope, Sparta. E. W. Crane, Sparta. John A. Sholts, Sparta F. J. French, Sparta Louis T. Hill, Sparta  F. L. Shaller, Sparta  C. W. Hins, Sparta  C. W. Hins, Sparta  Jsac Jensen, Cashton. Homer Lombard, Cashton Henry Oswald, Leon C. Bakkon, Cashton Chas. Todd, Wilton	Ayers' Creek Sargent Creek Sargent Creek Castle Rock Creek Tar Creek Squaw Creek Upper Coon Creek Little La Crosse Creek Dleasant Valley Creek	7,000 7,000 7,000 7,000 7,000 3,500 3,500 3,500 3,500 3,500

Name and Address of Applicant.	Where Planted.	No. of Fish.
MONROE COUNTY—Continued. Saml. Sloggy, Norwalk	Cook Creek Brush Creek Billings' Creek Moore's Creek Moore's Creek Sparta Creek Alton Creek Vandervoort Creek, Black's Creek	3,500 3,500 3,500 3,500 3,500 7,000 7,000 3,500 3,500
	Deer Creek	3,500 3,500 140,000
OCONTO COUNTY— Chas. Hall, Oconto	Little River	10,500 7,000
ONEIDA COUNTY— C. C. Yawkey, Hazlehurst,	Kitty Creek	17,500 7,000
PIERCE COUNTY—  D. C. Munger, Maiden Rock  M. D. Cassiday, Maiden Rock  J. B. Carson, Brassington  J. W. Losey, La Crosse	Rush River Rush River Spring Creek Rush River	7,000 7,000 7,000 7,000
POLK COUNTY— Frank Fiske, Turtle Lake	Spring Brook	28,000 7,000
PORTAGE COUNTY— J. C. Frost, Stevens Point Aug. Walkush, Cassimere Thom. Lehman, Rosholt Carl. O. Doxrud, Nelsonville. J. T. Moore, Nelsonville John M. Higgins, Custer H. Simpier, Stevens Point	Gardner's Creek Hay Meadow Creek S. Branch, Little Wolf Waupaca River Trib, Waupaca River Seitzer Brook Little Plover River	7,000 7,000 7,000 7,000 7,000 7,000 7,000
PRICE COUNTY— C. M. Duraee, Phillips E. D. Sperry, Phillips C. S. Webster, Phillips	Little Elk Creek	56,000 14,000 14,000 7,000
RICHLAND COUNTY— C. G. Cole, oodstock. V. J. Stanck, Yuba	Pugh's Branch Pine River Myer's Creeks Fancy Creek Buck Creek John's Hollow Creek Callahan Branch Maxwell Branch Carl Creek Weitzel Creek Little Bear Creek Martell Creek Hellenbeck Creek Ewer's Branch	35,000 7,000 7,000 3,500 3,500 3,500 3,500 3,500 3,500 3,500 3,500 3,500 7,000 3,500 3,500

Name and Address of Applicant.	Where Planted.	No. of Fish.
SAUK COUNTY— F. M. McClure, Reedsburg. Frank Foss, Reedsburg. Henry Scherve, Reedsburg. J. W. Davis, Baraboo. Frank Herfort, Baraboo. C. C. Thompson, Baraboo. J. E. English, Baraboo. G. E. Talbot, Lime Ridge. L. E. How Baraboo. E. G. Marriott, Baraboo. A. Beckwith, Dixon. B. D. Sherwood, Spring Green.	Beaver Creek Dell Creek Big Spring Creek Helm's Creek Branch, Dell Creek Seeley Creek Narrow's Creek Spring Creek Leach Creek Little Bear Creek	3,500 3,500 3,500 3,500 3,500 3,500 3,500 3,500 3,500 7,000
TREMPEALEAU COUNTY— E. T. Clark, Galesville	Dutch Creek	45,500 3,500 3,500 7,000 3,500 3,500 3,500 3,500 3,500 3,500
VERNON COUNTY— H. J: Seaverson, Westby. Lars Tomting, Westby Olef Peterson, Westby. Olef Noer, Westby. J. W. Groves, Madison.  Albert Mockrud, Westby. Frank S. Mott, Viroqua. M. B. Davidson, Westby. J. Henry Tate, Viroqua. C. D. Williams, Viroqua. H. D. Williams, Viroqua. F. M. Minshail, Viroqua. J. W. Mills, Viroqua. J. K. Schriener, Westby. E. J. Sveen, Westby. C. T. Shannon, Westby. A. J. Johnson, Viroqua.  VILAS COUNTY— Williams Salsich Co., Star Lake.	Bagin Creek W. Brch. of West Kickapoo Spring Creek Purdy Brch. of Bad-axe  Lost Creek Donahue Creek Plum Creek Gleason Creek	35,000 3,500 3,500 3,500 10,500 7,000 3,500
WALWORTH COUNTY— T. D. Weeks, Whitewater Chas. S. Weeks, Whitewater H. M. Trippe, Whitewater R. H. Johnson, Whitewater	Bluff Stream Scanlan Creek Harris Stream Whitewater Lake Creek	7,000 7,000 35,000 7,000 3,500 3,500 3,500 3,500 3,500 3,500 3,500 3,500

Name and Address of Applicant.	Where Planted.	No. of Fish.
VASHBURN COUNTY— Wm. Busch, Spooner	Beaver Brook	14,00
VASHINGTON COUNTY— S. F. Mayer, West Bend	Eigman Creek	7,00
H. B. Kaempfer, West Bend		7,00
VAUKESHA COUNTY—	Proper of Superpose Crook	21,00
J. A. Lins, Eagle	Branch of Supernong Creek. Long's Creek Minnehaha Creek	3,50
VAUPACA COUNTY—		14,00
Geo. Jeffers, Sheridan Orr Decker, Waupaca	Crystal River	3,50 3,50 3,50
John Jobson, Sheridan Robt, Gibbons, Sheridan	Silver Creek Howard Creek	3,50 3,50
Oliver Olfsen, Sheridan	Knudsen Creek	3,50 3,50 3,50
Robt, Gibbons, Sheridan.  H. N. Jeffers, Sheridan. Oliver Olfsen, Sheridan. Sam. Torgerson, Sheridan. Fred Johnson, Sheridan. A. P. Andrews, Sheridan. H. Olfson, Sheridan.	Headland Creek Waupaca Creek Harris Creek	3,60
H. Olfson, Sheridan. C. E. Chamberlain, Waupaca. Wm. Rutherford, Waupaca. F. M. Clark, Wild Rose.	Steadman Creek	3,50 7,00 7,00
F. M. Clark, Wild Rose	Hunter Creek	7,0
VAUSHARA COUNTY—		59,50
Elmer Walker, Wautoma D. Hoxie, Wautoma Wm. Berrie, Wautoma	Mecan River and Tribs White River and Tribs Tribs. to White River	14,00 14,00 14,00
W. L. Roberts, Wautoma	Mecan 'River Lunch Creek	7,0 7,0
W. A. Bugh, Wautoma. F. M. Smith, Coloma.	White River and Tribs Wedde Creek	$\frac{14,0}{3,5}$
Chas. Bassett, Coloma	Roch-a-cris Creek Willard Creek Wadey Creek	3.5 3,5 3,5
W. J. Johnson Coloma Station W. A. Roblier, Coloma Station J. S. Williams, Plainfield	Little Roch-a-cris Creek	3,5 <b>3</b> ,5
Frod Hollor Rightond	Mosen River shove dam	7,0 3,5 3,5
C. Rogers, Richford. W. H. Campfield, Hancock. L. W. Beach, Hancock.	N. Brch., Wadde Creek Lunch Creek Little Roch-a-cris Creek	3,5 3,5
H. J. Hawkins, Coloma Station C. W. Lindsay, Hancock	Little Roch-a-cris Creek Cowlen Creek King Creek	3,5 3,5
Wm. H. Harris, Kichford	Mecan Creek Pine River Willow Creek	3.5 3.5 7.0
John Fuller, Spring Lake	Willow Creek Maars Creek Spring Brook	3,5
L. W. Beach, Hancock. H. J. Hawkins, Coloma Station. C. W. Lindsay, Hancock. Wm. H. Harris, Inchford. Matt. Westover, Pine River. Wm. Stewart, Berlin. John Fuller, Spring Lake. Geo. H. Fuller, Spring Lake. E. F. Kimball, Pine River. Fred Dewey, Pine River. Louis Ryerson, Pine River.	Reams Creek	3.5 3,5
Louis Ryerson, Pine River	Silver Creek Oliner's Creek Maars Creek	3,5 3,5 3,5
o neuch, oping nunc		157,5
Total distribution for 1897		1,949,0

## RAINBOW TROUT DISTRIBUTION, 1897.

Name and Address of Applicant.	Where Planted.	No. of Fish.
ASHLAND COUNTY—  Jos. Carl, Glidden  Henry Hayton, Glidden  Geo. Sell, Glidden  Wm. G. Fordyfe, Glidden	Dryden Creek	6,000 6,000 6,000 6,000 24,000
BROWN COUNTY— E. L. Tyrel, Green Bay	Trout Creek	3,000 3,000 3,000
Ben. Smith, Green Bay J. L. Wilcox, Green Bay	Potter Creek	6,000 6,000
BAYFIELD COUNTY—	Marengo River	6,000
BUFFALO COUNTY— Allan Cowie, Arcadia	Fernholz Creek Little Waumandee Trout Creek Mill Creek Pine Creek	6,000 6,000 6,000 6,000 6,000
Erik Alme, Nelson  Peter Mathys, Tell	Bear Creek	3,000 3,000 6,000
CALUMET COUNTY— M. Bell, Marytown John Bruipel, Cedarburg N. Mahlburg, Charlesburgh. Jos. Wolfinger, Dundas	Sheboygan River	42,000 6,000 6,000 6,000 12,000
CHIPPEWA COUNTY— S. R. Kalser, Cadott	Bentley Creek Turner Creek	30,000 3,000 3,000 6,000
CLARK COUNTY— Chas. A. Vandusen, Thorpe C. G. Stow, Loyal	Marshall Creek Bear Creek Rock Creek	6,000 3,000 3,000
COLUMBIA COUNTY— M. D. Olson, Rio	Cuff Creek John's Spring Brook Atcherson's Creek Cooning Creek	6,000 6,000 3,000 3,000
DANE COUNTY— F. A. Schaffrit, Mt. Horeb	German Valley Creek	18,000 6,000

Name and Address of Applicant.	Where Planted.	No. of Fish.
DUNN COUNTY— G. N. Amble, Colfax	Broken Creek Little Otter Creek	6,000
		12,000
EAU CLAIRE COUNTY— Henry Russell, Augusta	Bridge Creek	3,000 3,000
Chas. N. Hatredt, Eau Claire	Hay Creek Otter Creek Elk Creek	6,000 6,000
FOREST COUNTY— "ohn Kiernan, Armstrong Creek	Armstrong Creek	18,000 6,000
GRANT COUNTY-		
Jas. Alderson, Lancaster  F. M. Cronin, Lancaster	Austin Branch	3,000 3,000 3,000
Thomas McDonald, Lancaster	Lattie Grant River	3,000 6,000 6,000
A. Schmitt, Lancaster O. P. David, Montfort	Bushnell Hollow Creek	3,000 3,000 6,000
A. Devoe, Boscobel E. C. Bryan, Boscobel	N. Branch of Ruland Creek	6,000 3,000 3,000
J. B. Nauert, Boscobel E. B. Smith, Boscobel Chas. McMillan, Boscobel	Saunder's Creek Knapp's Creek W. Branch of Coon Creek Saunder's Creek	6,000 6,000 3,000 3,000
GREEN COUNTY—		66,000
H. C. Putnam, Brodhead	Sugar River	12,000
H. R. Carter, Jonesdale	Tobin Creek	3,000 3,000 6,000
	HOUR DIANCE	12,000
IRON COUNTY— G. W. Buck & Son, Manitowish D. C. Fifield, Gile	Lake Harris	6,000 6,000
		12,000
JACKSON COUNTY— S. L. Brist, Shamrock R. K. Frost, Millston	South Branch, Robinson Ck.	6,000 6,000
Fred Newell, Hixton	Pigeon Creek	6,000 6,000 6,000
W. E. Abbott, Hixton	Pine Creek	3,000 3,000 6,000
F. Dudley, Alma Center E. A. Miller, Hixton	South Branch, Hall's Creek	6,000
	peareau mitti	54,000

Name and Address of Applicant.	Where Planted.	No. of Fish.
JUNEAU COUNTY—  M. Leffingwell, Mauston C. P. Babcock, Mauston Jas. Roach, Mauston John Scanlan, Lyndon A. D. will, New Lisbon	Lawrence Creek	6,000 6,000 6,000 6,000 3,000 3,000
LA CROSSE COUNTY— Thos. Barclay, West Salem A. C. Hanson, Mindora	Flemming's Creek	6,000 6,000
LANGLADE COUNTY— John Veidt, Summit Lake	T	12,000
John Veidt, Summit Lake  LINCOLN COUNTY—	Hunting River	6,000
G. A. Miller, Dudley A. L. Miller, Dudley	Prairie River	6,000 6,000
		12,000
MANITOWOC COUNTY— Lorenz Dippold, Mosel Julius Linstedt, Manitowoc	Dippold's Pond Devil River	6,000
•		12,000
MARATHON COUNTY— W. D. Connor, Stratford Lincoln Brett, Hatley. C. L. Wyatt, Hatley F. E. Wheeler, Hatley.	Big Eau Pleine River Plover River Plover River Plover River	6,000 3,000 3,000 3,000
		15,000
MARINETTE COUNTY— L. E. Katzenstein, Milwaukee. John Ahle, Wausaukee. C. H. Quirslorn, Pembine.  John Hoff, Wausaukee. John Wood, Amberg. Wausaukee Club, Middle Inlet.  John Donnelly, Athelstane.	Shepard Creek North Brch., Pene-bon-won South Brch., Pene-bon-won Hoff's Creek South Brch., Pike River Little Wausaukee River Rat River	6,000 9,000 9,000 12,000 12,000 9,000 12,000 12,000
Geo. W. Taylor, Marinette	Big Wausaukee River S. Brch., Little Wausaukee.	12,000 12,000 9,000
MARQUETTE COUNTY— Fred Pond, Westfield		138,000
	Duck Creek and Mill Pond	6,000
OCONTO COUNTY— W. H. Young, Oconto	Lindsey Brook and Tribs Little River South Branch River	12,000 12,000 13,000
4.77: 1		42,000

Name and Address of Applicant.	Where Planted.	No. of Fish.
NEIDA COUNTY— E. S. Shepard, Rhinelander	Shepard's Brook Wood River Spring Brook Popple River Moon River	6,000 6,000 6,000 6,000 6,000
PEPIN COUNTY— Wm. H. Smith, Eau Galle W. H. Huntington, Durand J. W. Losey, La Crosse	Big and Little Missouri Cks. Porcupine Creek Ward Creek Bear Creek Lost Creek	30,000 6,000 6,000 3,000 6,000 6,000
PIERCE COUNTY—  J. B. Jenson, Ellsworth.  John Peterson, Ellsworth.  Martin Olson, River Falls.  G. E. Pratt, River Falls.  E. H. Currie, River Falls.  A. Combacher, Ellsworth.  J. A. Clough, Spring Valley.  B. S. Burhyte, River Falls.  C. E. Meacham, Prescott.	Isabelle Creek Lost Creek Foster's Spring Kinnickinnic River Kinnickinnic River Rush River Lousey Creek Cady Creek Kinnickinnic River Big River	6,000 6,000 6,000 6,000 6,000 6,000 3,000 3,000 6,000 6,000
POLK COUNTY— S. M. DeGolier, Richardson J. F. Snyder, Amery	Beaver Brook	54,000 6,000 3,000 3,000 12,000
PORTAGE COUNTY— A. J. Anderson, Amherst Wm. T. Waller, Nelsonville John C. Frost. Stevens Point John Een, Amherst J. N. Rambeck, Peru	South Brch., Waupaca River	6,000 6,000 6,000 6,000
PRICE COUNTY— Fred Myers, Prentice	Worcester's Lake	6,000
ST. CROIX COUNTY— Patrick Heefrod, New Richmond Thos. Ward, New Richmond L. G. Green, Hudson P. E. De Mille, Baldwin. S. S. Holmes, Baldwin. F. F. Gray, Hudson. B. Dean, Jewett. O. H. Gordon, Somerset. Wm. Walsh, Cylon. L. J. Adgate, Cylon.	Wood 8 SDrings Barker Springs Lefferson Brook Pine Tree Springs Apple Biver	6,000 6,000 6,000 6,000 6,000 6,000 6,000 6,000

Name and Address of Applicant.	Where Planted.	No. of Fish.
SAUK COUNTY—  F. Bueldar, Prairie du Sac W. F. Conger, Prairie du Sac M. H. Keysar, Prairie du Sac F. J. Farr, Prairie du Sac O. J. Tador, Prairie du Sac	Little Baraboo Honey Creek Honey Creek Leman's Creek Laymond's Creek	6,000 6,000 6,000 6,000 6,000
SHAWANO COUNTY— O. H. Kowalske, Regina Jas. K. Stewart, Hunting A. B. Glaubitz, Wittenberg	North Branch	30,000 6,000 6,000 6,000
		18,000
SHEBOYGAN COUNTY— B. H. Sanford, Sheboygan Falls Jas. Slyfield, Waldo Jas. Mallman, Sheboygan	Head, Milwaukee River Head-waters, Onion River Tributary, Sheboygan River.	6,000 6,000 12,000
TAYLOR COUNTY— J. B. Haugartz, Medford T. G. Jeffers, Medford	Black River Deitrich's Creek Mink Creek	6,000 3,000 3,000
*		12,000
TREMPEALEAU COUNTY— E. J. Kidder, Whitehall. Ole Larson, Whitehall. Ludvig Sotsrud, Whitehall. P. L. Solberg, Whitehall. Iver Peterson, Ettrick.	Hay Creek Irvine Creek Fitch Creek Jacob Creek Pederson's Mill Pond	6,000 6,000 6,000 6,000 6,000
		30,000
VERNON COUNTY— Robert Hammer, Hillsboro	West Branch, Baraboo River And Tributaries	15,000
VILAS COUNTY— Finn Lawler, Eagle River  Ross Lumber Co., Arbor Vitae John Radcliffe, Eagle River. H. Howlett, Conover. Dickenson & Cook, E. River. A. A. Denton, Eagle River. H. B. Chopin, Milwaukee N. A. Coleman, Eagle River. Fred Morey, Eagle River. Jos. Hughes, Eagle River.	Spring Creek Churchill Brook Martin Creek Spring Creek Head-waters, Tamarack Ck. Cedar Creek Musk-rut Creek Clear Lake Kenluck Lake Silver Lake Deer Skin River	3.000 3.000 6.000 6.000 6.000 6.000 6.000 6.000 6.000 6.000 6.000
WASHRURN COUNTY— Wm. Busch, Spooner	Vollage Divon	
Will, Busch, Spooner	tenow kiver	6,000
WAUKESHA COUNTY— Frank P. Ziegler, Milwaukee	DeNoon Lake	6,000

Name and Address of Applicant.	Where Planted.	No. of Fish.
WAUPACA COUNTY— J. H. Coffman, Marion  Wm. Gould, Clintonville Wm. Schimke, Clintonville. Chas, Bucholz, Clintonville Aug. Ahlyrinson, Pella F. P. Jones, Clintonville L. E. Knudson, Clintonville John D. Miller, Marion J. T. Hickey, New London	Spring Brook Churchell Brook Beaver Creek Spring Brook Shaw Creek Main Embarrass Pigeon Creek Mattison Creek North Brch., Pigeon River Potter's Creek Boardman Creek Careen Creek Maple Creek Maple Creek Deer Creek	3,000 3,000 6,000 3,000 3,000 3,000 3,000 3,000 3,000 3,000 3,000 3,000 3,000
Brooks and Root, Sheridan. H. M. Olson, Sheridan. O. J. Olfson, Sheridan. John Jobson, Sheridan. W. B. Baker, Waupaca.  Frank Stout, Waupaca  W. R. Parks, Iola. Ole C. Se.—er, Scandinavia.	Turrey's Pond Chinese Pond Waupaca River Nevin Creek Headland Creek Silver Creek Emma Creek Radley Creek South Brch., Little Wolf North Brch., Owl Creek Tresness Creek	3,000 3,000 6,000 3,000 6,000 6,000 12,000 9,000 3,000 3,000
C. H. Anderson, Scandinavia L. M. Jackson, Manawa	Sether Creek N. Brch, Little Wolf. N. Brch, of the South Brch, of Little Wolf River	3,000 6,000 6,000
WAUSHARA COUNTY— C. A. Smart, Wild Rose W. L. Wilson, Springwater	Clayton Creek	3,000
Total distribution for 1897		1,191,000

### WALL-EYED PIKE DISTBIBUTION, 1897.

Name and Address of Applicant.	Where Planted.	No. of Fish.
BARRON COUNTY— E. K. Brayton, Rice Lake	Tuscobia Lake Tuscobia Lake Big Horse-shoe Lake Little Round Lake Echo Lake Beaver Dam Lake	200,000 200,000 200,000 200,000 200,000 200,000
BAYFIELD COUNTY— Rust Owen Lbr. Co., Drummond  Currie G. Bell, Bayfield Frank Hammill, Cable C. P. Barker, Iron River H. R. Van Alstine, Iron River. Hollon Richardson, Iron River	Siskowit Lake	300,000 100,000 400,000 200,000 200,000 200,000
CHIPPEWA COUNTY— P. S. Peterson, Bloomer E. H. Rodgers, Bloomer A. A. Korn, Jr., Stanley	Bloomer Pond	200,000 200,000 200,000 300,000 700,000
CLARK COUNTY— John H. Chesak, Athens	Black Creek	300,000
COLUMBIA COUNTY— L. N. Coapman, Wyocena	Duck Creek	300,000
DANE COUNTY— C. E. Shannon, Stoughton T. C. Lund, Stoughton Chris. Legried, London	Lake Kegonsa Lake Ripley	300,000 300,000 300,000 900,000
DOUGLAS COUNTY— August W. Kunert, Superior. A. G. Alscamp, Superior.  William Wegner, Superior. John A. Bardon, Superior. Gordon Young. Gordon. K. W. Lewis, Minong. N. Lucius. Jr., Solon Springs. David Dobie, Minnesung.	Bardon Lake Bardon Slough Lake Wegner	200,000 100,000 100,000 200,000 200,000 400,000 200,000 200,000 200,000 200,000
DUNN COUNTY— F. J. Basner, Wheeler. F. S. Sherwood, Wheeler. D. C. Baldwin, Colfax.	Hay River Big Beohur Creek Red Cedar River	300,000 300,000 300,000 900,000
EAU CLAIRE COUNTY— Marshall Cousins, Eau Claire	Washington Pond	400,000

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Name and Address of Applicant.	Where Planted.	No. of Fish.
GREEN COUNTY— H. C. Putnam, Sr., Brodhead William Roantree, Brodhead	Sugar River Spring Creeks, Tributary to Sugar River	300,000
JEFFERSON COUNTY— F. J. Fohljahn, Rome O. C. Vaughn, Jefferson		600,000 300,000 300,000
JUNEAU COUNTY— Jas. Koach, Mauston. Henry Schall, Mauston. H. C. Thompson, Mauston.	One-Mile Creek	300,000 300,000 300,000 900,000
LA FAYETTE COUNTY— J. B. Simpson, Shullsburg M. P. Kennedy, Gratiot. R. F. Dougherty, Darlington. E. T. W. Barnes, Darlington.	March Lake Pecatonica River Pecatonica River Pecatonica River	300,000 300,000 300,000 300,000
LANGLADE COUNTY— C. L. Leykom, Antigo John Veidt, Summit Lake M. G. Stickney, Antigo W. H. Dawley, Antigo Elmer E. Thompson, Antigo Geo. Bremer, Summit Lake	Duck Lake	300,000 300,000 300,000 300,000 300,000 300,000
MARATHON COUNTY— Henry Seim, Wausau Ed. C. Hall, Jr., Wausau		1,800,000 300,000 300,000
MILWAUKEE COUNTY— C. Niss, Milwaukee	Milwaukee River	600,000
MONROE COUNTY— T. O. Thorbus, Sparta F. L. French, Sparta	Paper Mill Pond Perch Lake	300,000
POLK COUNTY— * D. G. Jones, Clear Lake	Clear Lake	600,000 200,000
RACINE COUNTY— Shennan's Park Hotel, Burlington Waller & Gittings, Burlington	Brown's Lake	300,000
ST. CROIX COUNTY— O. C. Van Meter, New Richmond	Willow River Pond	200,000
SAWYER COUNTY— William Hogue, Hayward Har., Shue, Hayward		200,000

#### WALL-EYED PIKE DISTRIBUTION, 1897—Continued.

Name and Address of Applicant.	Where Planted.	No. of Fish.
VILAS COUNTY— N. A. Coleman, Eagle River  A. E. McKinzie, Eagle River Matt. Herzel, Eagle River W. H. Cannon, Madison	Kentuck Lake   Big Bass Lake   Gordon Lake	150,000 150,000 300,000 300,000 600,000 1,500,000
WALWOL H COUNTY— Allen F. Caldwell, Whitewater	Green Lake	600,000
WASHBURN COUNTY— William Busch, Spooner Wm. Hellene, Spooner G. L. Jones, Snell Lake E. D. Baker, Shell Lake Geo. Tozer, Spooner O. H. Ingraham, Eau Claire	Mud Lake Shell Lake Lake in Township 38, R. 11 (no name) Little Mud Lake	200,000 200,000 200,000 200,000 200,000 600,000
WAUKESHA COUNTY— H. Bowman, Genesee		1,600,000 300,000 300,000
W. H. Fanner, Eagle. J. C. Schuette, Muskego Center. Frank P. Ziegler, Milwaukee. L. Maschouser, Nashotah.		300,000 600,000 300,000
WAUPACA COUNTY— Emor H. Lynch, Crystal Lake  Philip A. Ham, Crystal Lake W. L. Wilson, Spring Water  Wm. Ruthford, Waupaca	Bass Lake Pine Lake Long Lake Pine Lake	1,800,000 150,000 150,000 300,000 150,000 150,000 300,000
Total distribution, 1897		1,200,000 23,300,000

## BROOK TROUT DISTRIBUTION, 1898.

Name and Address of Applicant.	Where Planted.	No. of Fish.
ASHLAND COUNTY— Geo. P. Rossman, Ashland. Geo. Sell, Glidden. A. A. Markl, Mellen. John Pearl, Butternut.  C. F. Graf, Butternut.	Magee Creek	6,000 6,000 3,000 3,000 3,000 3,000
BARRON COUNTY— G. E. Scott, Prairie Farm I. Sprague, Prairie Farm J. H. Bunker, Turtle Lake A. Rosenbush, Turtle Lake H. S. Comstock, Cumberland	Smith's Creek	27,000 3,000 3,000 5,000 5,000 5,000
H. S. Comstock, Cumberland. W. H. Cleony, Cumberland. P. J. Heintz, Rice Lake. P. E. Olsen, Rice Lake. Chas. J. Beecher, Rice Lake. A. A. Gabriel, Rice Lake. Wm. Boehmer, Rice Lake. Geo. Andersen, Rice Lake. T. W. Bomm, Barron.	Hickey Creek Barker's Creek Pine Creek	5,000 3,000 3,000 3,000 3,000 3,000 2,500
R. A. Burton, Barron. S. Christiansen, Barron. D. Post, Barron. D. A. Russell, Dallas. Torger Olson, Dallas. Harry Halverson, Dallas. K. Espeseth, Dallas.	Johnson Creek West Pine Creek Stony Creek South Pine Creek	2,500 2,500 2,500 2,500 3,000 3,000 3,000
D. L. WOLLD COMMIN	•	68,500
BAYFIELD COUNTY— Frank Hammill, Cable C. G. Bell, Bayfield Nelson Brothers, Bayfield Wmnight, Bayfield D. J. Estabrook, Washburn	Big Brook Siskowit River Onion River Ray's Creek Four Mile Creek Sioux River	5,00 7,500 5,000 8,000 5,000 5,000
Saml. Bally, Bayfield J. L. Sayles, Pratt  Iver Lien, Mason. F. A. Bell, Iron River C. D. Ramsdell, Iron River	Spring Brook	4.000 2,500 2,500 6.000 5.000
C. D. Ramsdell, Iron River	West Flag River	5,000 2,500 2,500 5,000
BROWN COUNTY— Chas. J. Kimball, Green Bay Timothy Burke, Wayside J. L. Wilcox, Green Bay Victor Bader, Green Bay	Beaver Dam Creek Branch River Whipple Brook Shirland Creek	3,000 6,000 6,000 3,000

Name and Address of Applicant.	Where Planted.	No. of Fish.
BUFFALO COUNTY— S. D. Hubbard, Mondovi  S. Gilman, Mondovi  Harvey Brown, Modena  J. W. Whelan, Mondovi	Harvey Creek Carroll Creek Rossman Creek Paeso Creek Gilman Creek Modena Valley Creek Holmes Creek Holmes Creek Hoyt Creek Hoyt Creek	3,000 3,000 3,000 3,000 3,000 3,000 3,000 3,000 3,000
CHIPPEWA COUNTY— E. A. Martin, Cauott	Coon Creek Wild Cat Creek Hay Creek Hay Creek Hill's Creek Spring Creek Branch of Trout Creek West Brch, O'Neil Creek Chissman Creek Conroy Creek Little Hay Creek Big Hay Creek Hanneman Creek Silver Springs Brook Mad Creek  Barker's Creek Spring Creek East Brch, Wedge's Creek Cawley Creek Alder Creek South Fork Wheeler Creek Daly Creek Mead Creek	30,000  3,000 3,000 3,000 3,000 3,000 3,000 2,500 2,500 5,000 5,000 6,000 3,000 6,000 3,000 3,000 6,000 3,000 3,000 6,000 3,000 3,000 3,000 3,000 3,000 3,000 3,000 3,000 3,000
COLUMBIA COUNTY— S. C. Cook, Portage Danl. Bentley, Hartman	Maynard Creek	39,000 6,000 6,000
CRAWFORD COUNTY— J. P. Barnum, Prairie du Chien Aug. Kessler, Wauzeka W. S. Manning, Soldiers' Grove J. O. Davidson, Soldiers' Grove Tim Garrity, Soldiers' Grove M. Hendrickson, Soldiers' Grove	Lane Brook Grand Grey Creek Johnson Creek Trout Creek Soldiers' Grove Creek Knapp's Creek Bear Creek Johnson Creek	9.000 6.000 3.000 3.000 6.000 3.000 6.000 3.000
DANE COUNTY— Jos. Henderson, Rileys Henry Boning, Bascoe Frank Prucia, Bellville C. M. Clarke, Stoughton	Henderson Creek Trib., Sugar River Big Creek Tribs., Bad-fish Creek	6,000 6,000 6,000 6,000

Name and Address of Applicant.	Where Planted,	No. of Fish.
OODGE COUNTY— Eugene Ziegler, Mayville	Koepsell Creek	3,000 3,000
		6,000
OUGLAS COUNTY— E. J. Favell, West Superior	Goose Creek	3,000
	Copper Creek	3,000
N. Lucius, Jr., Solon Springs J. Bergin, Gordon	Brule River	6,000
W. J. Conness, Brule	Spring Brook Little Brule River	5,000
TININ (IOTININ)		23,000
OUNN COUNTY—	Dougherty Creek Big Otter Creek S. Brch., Eighteen-Mile Creek N. Brch., Eighteen-Mile Creek S. Brch., Eighteen-Mile Creek Beaver Creek Varney Creek Hell Creek	3,00
Robt. R. Porter, Wheeler	Big Otter Creek	3,000
Hans M. Olsen, Colfax	N. Brch., Eighteen-Mile Creek	6,00 3,00
H. O. Peterson, Colfax	S. Brch., Eighteen-Mile Creek	3,00
B. Tollefson, Colfax	Beaver Creek	3,00
W. H. Allen, Menomonie	Hall Creek	3,00
F. B. Wilson, Menomonie	Irvine Creek	3,00
E. J. Newsome, Menomonie	Irvine Creek	3,00
Chas. Ingraham, Menomonie	Gilbert Creek	3,00
OUNN COUNTY— E. B. Jackson, Prairie Farm. Robt, R. Porter, Wheeler Hans M. Olsen, Colfax. L. A. Larson, Colfax. H. O. Peterson, Colfax. W. H. Allen, Menomonie. L. Ingraham, Menomonie. F. B. Wilson, Menomonie. E. J. Newsome, Menomonie. Chas, Ingraham, Menomonie. W. A. Scanlan, Menomonie. J. H. Stout, Menomonie.	Lecolo Cik Creek	8,00
EAU CLAIRE COUNTY—		48,00
William J. Star, Eau Claire	Various spring creeks near	
B A Buffington For Claire	Eau Claire	12,50 3,00
B. A. Buffington, Eau Claire	Lowes Creek	3.00
A. A. Cutter, Eau Claire	Beaver Creek	3,00
B. S. Phillips, Eau Claire	Eighteen-mile Creek	3,00
Maishail Cousins, Eau Claire	Cooks Creek	3,00
Geo. W. Pond, Eau Claire	Otter Creek	3,00
Herman Lange, Eau Claire	Coon Creek	3,00 6,00
A. A. Cutter, Eau Claire. B. S. Phillips, Eau Claire. Marshall Cousins, Eau Claire. Geo. W. Poond, Eau Claire. Herman Lange, Eau Claire. Henry Russell, Augusta G. E. Bartz, Fall Creek.	Beaver Creek	6,00
		48,50
FOND DU LAC COUNTY— John Armen, Fond du Lac	Empire Creek	3.00
J. J. Gromme, Fond du Lac	Forest Brook	3,00
H. W. Geisse, Fond du Lac	Mullett River	3,00
J. J. Gromme, Fond du Lac. H. W. Gelsse, Fond du Lac. O. F. Jaeger, Fond du Lac. C. F. Schleger, Fond du Lac. Paul J. Fritz, Fond du Lac. Saml. H. Longdin, Fond du Lac. W. P. Frietonstein, Fond du Lac.	Spring Brook	3,00
Paul J. Fritz, Fond du Lac	Parson Creek	3,00
Saml. H. Longdin, Fond du Lac	Fisher Creek	3,00
Ot . T. O. trietenstein, Fond du Bactiti	Thillian Milmonless Divon	3,00
L. E. Reed, Ripon	Ray Creek	3,00
E. J. Burnside, Ripon	Silver Creek	3,00
E. F. Reichmott, Ripon	Snake Creek	3,00
T. S. Chittenden, Ripon	Martin Creek	3,00
Chas. F. Geisse, Fond du Lac. L. E. Reed, Ripon E. J. Burnside, Ripon M. P. Cody, Ripon T. S. Chittenden, Ripon W. T. Runnals, Ripon C. W. Stewart, Ripon L. W. Thayer, Ripon H. C. Eversz, Ripon	Silver Creek Long's Creek Snake Creek Martin Creek Silver Creek Saule's Creek	3,00
L. W. Stewart, Ripon	Henderson Creek	6,0
		3,00
Robt. Denz, Elmore	Denz Spring Brook	3,00
Wm. Wedde, New Cassel	Hawkins Creek	3,00

Name and Address of Applicant,	Where Planted.	No. of Fish.
GRANT COUNTY— W. G. Palmer, Boscobel W. J. F. Nauert, Boscobel Chas, Wolf, Boscobel	Seeley Creek Crooked Creek Saunders Creek	3,000 3,000 3,000
Jud. P. Walker, Boscobel	Hungerford's Creek Basey Creek Chitwood Creek	3,000 3,000 3,000
W. J. F. Nauert, Boscobel Chas, Wolf, Boscobel Jud. P. Walker, Boscobel B. T. Williams, Boscobel G. D. Walker, Boscobel T. R. Cheeseboro, Boscobel A. J. Howell, Lancaster. S. E. Hassel, Lancaster. H. A. Davis, Montfort.	Chitwood Creek Indian Creek Borah Branch Chubb Branch Tributaries to Blue River	3,000 6,000 6,000 6,000
Frank W. Cheesebro, Muscoda	Branch of Coon CreekLudwig Branch	3,000 3,000
Frank W. Cheesebro, Muscoda. L. C. McCullum Muscoda. O. W. Fessel, Muscoda. G. A. Elliot, Muscoda. Chas. McMillan, Boscobel. R. S. Olmstead, Woodman.	Coon Creek   Hoosier Creek   West Brch., Coon Creek	3,000 3,000 3,000
R. S. Olmstead, Woodman	Little Greene	3,000 57,000
GREEN COUNTY— W. W. Chadwick, Monroe	Tributary of Sugar River	6,000 3,000
O. E. Stamm, New Glarus	Trib., Sugar River	3,000
GREEN LAKE COUNTY—	Waterman Creek	6,000
Geo. W. Morton. Berlin	Willow Creek	3,000 3,000
IOWA COUNTY—		12,000
John Burris, Clyde. Julia Bennett, Pine Knob. Wm. Kramer, Jonesdale H. R. Carter, Jonesdale.	Burris Branch   Trib., Otter Creek   Spring Branch   Tobin Creek	3,000 3,000 3,000 3,000
Thomas Thomas, Dodgeville Frank F. Starry, Barneveld	Weir Creek	3,000 6,000 3,000
Fred Jewell, Dodgeville Saml. W. Reese, Dodgeville	Walnut-hollow Creek Mill Creek Head of Pecatonica River Regan Creek Bunker Creek	3,000 6,000 3,000 3,000
T T Paull Ridgeway	Harker Creek	3,000 3,000 6,000
J. T. Paull, Ridgeway	Rock Branch Venning Creek Graber Creek	3,000
J. M. Mulhairn, Mineral Point Geo. D. Masten, Mineral Point J. C. Kirkpatrick, Rewey	Berg Creek	3,000 3,000 6,000
		72,000
Frank Grant, Curry	Potatoe River	12,000
JACKSON COUNTY— A. J. Patterson, North Bend	Langeston Creek Mill Creek	3,000
S. L. Brist, Shamrock	Trout Creek	3,000

Name and Address of Applicant.	Where Planted.	No. of Fish.
JACKSON COUNTY—Continu d. F. Johnson, Black River Falls R. D. Squires, Black River Falls B. H. Bight, Black River Falls Chas. Sechler. Sechlerville J. B. Miller, Alma Center E. E. Moore, Merrillan E. B. Sanders, Merrillan Geo. W. Purnell, Merrillan H. J. Ornsby, Black R. Falls	Squaw Creek Vincent Creek Squaw Creek Squaw Creek Snow Creek Pisno Creek Pisno Creek Bisno Creek Bisno Creek Hall Creek Hall Creek Bovee Creek Hall Creek Trout Run Kenyon Creek	3,000 3,000 3,000 3,000 3,000 6,000 3,000 3,000 3,000 3,000 3,000 3,000 3,000 3,000 3,000
JEFFERSON COUNTY— L. H. Washburne, Palmyra E. R. Trippe, Palmyra		72,000 6,000 3,000 9,000
JUNEAU COUNTY— John Conway, Elroy  Henry Schall, Mauston Geo. Eakins, Lyndon  A. D. Gill, New Lisbon.  F. E. Hurd, New Lisbon  C. E. Babcock, Necedah F. M. Reed, Necedah E. D. Bartholomew, Necedah W. A. Reed, Necedah A. H. Maxon, Necedah J. E. Daly, Necedah	Millers Creek Prairie Creek Bremer Creek Lyndon Creek Weber Creek Macomber Creek Macomber Creek Macomber Creek Hougaton Creek Hougaton Creek Johnson Creek Scoonover Creek North Creek Dead-horse Creek Spring Creek Wris Creek	3,000 3,000 3,000 3,000 3,000 3,000 3,000 3,000 3,000 3,000 3,000 3,000 3,000 3,000
LA CROSSE COUNTY— John Markl. La Crosse Buttles & Pierce, Onalaska  John Erickson, Bangor Frank Bradley, Bangor. Wm. Smith, Bangor Thos. Barclay, West Salem  Jas. J. Hogan, La Crosse Alex. Johnson, West Salem  Jas. McCord, La Crosse	Sand Lake Cooley Creek Fish Creek Burns Creek Dutch Creek McConnell Creek Brown's Creek Flemming Creek	6.000 3,000 3,000 3,000 3,000 3,000 3,000 3,000 3,000 3,000 3,000 3,000 3,000 3,000

Name and Address of Applicant.	Where Planted.	No. of Fish.
LA CROSSE COUNTY—Continued. A. Hirschheimer, La Crosse  W. J. Scott, Madison	Krall Creek	6,000 6,000 3,000 3,000 3,000 3,000
LA FAYETTE COUNTY— W. E. Robinson, Blanchardville Jas. Blanchard, Blanchardville E. Schoruhart, Gratiot M. P. Kennedy, Gratiot Michael Derrick, Fayette E. W. Smith, Darlington	Wolf Creek Gailagher's Creek Wolf Creek Derrick Branch Finley Branch	90,000 3,000 3,000 3,000 3,000 3,000 3,000 3,000 6,000
LANGLADE COUNTY— C. W. Maney, Elcho. John Veidt, Summit Lake. Jos. Shacher, Pearson W. H. Hogan, Antigo.	Spring Brook Hunting River Steven's Creek Spring Brook	30,000 6,000 6,000 6,000
LINCOLN COUNTY— Henry Dudley, Merrill W. H. Flett, Merrill.  Howen & Flemming, Tomahawk Rufus Manson, Tomahawk John P. Hugnes, Tomahawk	Prairie River Tomahawk River, above Dam Squaw Creek Spirit River Hay-meadow Creek Brch., Little Rice Creek. Scanawon Creek Tomahawk River, above Dam Squaw Creek Spirit River Hay-meadow Creek	24,000 6,000 3,000 3,000 3,000 3,000 3,000 3,000 3,000 3,000 3,000
MARATHON COUNTY— David Winton, Wausau. Fred Genrich, Wausau. J. M. Smith, Wausau. Franklin Bonny, Wausau. Chas. Winton, Wausau John Miller, Wausau John Brown G. E. Vandercook, Madison Robt. T. Freeman, Mosinee W. N. Daniels, Mosinee. Tom R. Guenther, Knowlton	Winton Creek Eau Claire River	36,000 3,000 3,000 3,000 3,000 6,000 6,000 3,000 3,000 6,000
MARINETTE COUNTY— H. S. Clute, Marinette. John Huff, Wausaukee C. H. Quirslorn, Pembine. John Wood, Amberg. W. A. Brown, Marinette.  Geo. W. Taylor, Marinette.	Middle Inlet Wausaukee River Pembinee River Pike River Muckaria River Hand-saw Creek Thunder River	42,000 6,000 6,000 6,000 6,000 6,000 42,000

Name and Address of Applicant.	Where Planted.	No. of Fish.
MARQUETTE COUNTY— Thos. Wells, Jr., Neshkoro. A. H. Scobie, Neshkoro.  Oscar J. Weiss, Westfield. Frank Ogle, Westfield. William Guderjahn, Liberty Bluff	Head of Luck Creek	6,000 3,000 3,000 3,000 3,000 3,000
MONROE COUNTY— Fred Gross, Sparta.  Paul Schaller, Sparta.  Jacob Snyder, Sparta.  Burton & Graves, Sparta.  D. C. Hope, Sparta.  F. L. French, Sparta.  Victor Mistle, Camp Douglas.  A. L. Halstead, Warrens.  Melvin Lawton, Warrens.	Tarr Creek Squaw Creek Ash Run Brackett Creek Beaver Creek Silver Creek Swamp Creek Bailey Creek Bargent Creek Indian Creek Whiskey Creek Rudd Creek	24,000 3,000 3,000 3,000 3,000 3,000 3,000 3,000 3,000 3,000 3,000 3,000 3,000 3,000 3,000
S. I. Dale, Warrens	Burr Creek Flora Creek Sparta Creek Ash Creek Squaw Creek Luttle Silver Creek Cales Creek Big Silver Creek Tarr Creek Brush Creek Brush Creek Billing's Creek Weister Creek	3,000 3,000 3,000 3,000 3,000 3,000 3,000 3,000 3,000 3,000 3,000 3,000
ONEIDA COUNTY— A. W. Shelton, Rhinelander  John Davelin, Pratt Junction C. C. Yawkey, Hazlehurst		3,000 3,000 6,000 6,000 18,000
PEPIN COUNTY— Aug. Thies, Pepin. O. G. Potter, Pepin. N. A. Keyes, Durand. W. H. Huntington, Durand. W. H. Huntington, Durand. H. Pattison, Tarrant.	Little Arkansaw Creek Porcupine Creek	6,000 6,000 3,000 2,500 2,500 2,500 2,500 3,000
PIERCE COUNTY— W. C. Condit, Rock Elm. E. R. Condit, Rock Elm. A. O. Belfanz, Rock Elm. John Muller, Rock Elm. John F. Davis, Brassington.	Big Missouri Creek Cave Creek Plum Creek Plum Creek Spring Rivulet	3.000 3,000 3.000 3.000 3,000

Name and Address of Applicant.	Where Planted.	No. of Fish.
PIERCE COUNTY—Continued. J. A. Clough, Spring Valley. H. D. Burghardt, Spring Valley. E. Holcomb, Spring Valley. J. M. Curtiss, River Falls. R. M. Briggs, River Falls. G. E. Pratt, River Falls. E. H. Currie, River Falls. Martin Olson, River Falls. H. G. Ekiund, Moeville. C. W. Bateman, Ellsworth. A. Combacher, Ellsworth.	Trib., Eau Galle River. French Creek Kinnickinnic River South Fork Kinnickinnic River North Fork, Kinnickinnic. Forter Springs East Branch Fuller Creek Trimbelle River Isabelle Creek	3,000 6,000 3,000 3,000 3,000 5,000 2,500 2,500 2,500 2,500 2,500 3,000 3,000
POLK COUNTY— C. S. Rimpert, Osceola Mills John Howe, Amery	Osceola Creek	5,000 5,000
PORTAGE COUNTY— P. N. Peterson, Amherst. A. J. Anderson, Amherst. Wm. S. Diver, Nelsonville. John C. Frost, Stevens Point. Wm. H. Cutting, Stevens Point.	To-morrow River	10,000 3,000 6,000 3,000 6,000 6,000
PRICE COUNTY— W. F. Turner, Park Falls Hugh Boyd, Fifield	Turner Springs	3,000 3,000 6,000
RICHLAND COUNTY— J. L. Hodson, Lone Rock	Norwegon Creek Sullivan Creek Lost Hollow Creek Earl Creek Symonson Creek Fagle Creek Mill Creek Cherry Valley Creek Willow Creek Hawkin's Creek Camp Creek Rufton Creek Huffman Creek Simmons' Creek	12,000 3
ST. CROIX COUNTY— T. J. Lee, Cylon S. L. Pickett, Wilson J. C. Daniels, Brookyille J. E. Jones, Hudson L. G. Greene, Hudson O. J. Williams, New Richmond	Wilson Creek Gilbert Creek Fon Galle River. Willow River	48,000 3,000 2,500 2,500 5,000 5,000 5,000 28,000

Name and Address of Applicant.	Where Planted.	No. of Fish.
SAUK COUNTY— A. M. Reynolds, Reedsburg. A. Coleman, Reedsburg. Herman Foss, Reedsburg. H. Scherve, Reedsburg. H. C. Hunt, Reedsburg. R. M. Mathews, Ironton.	Belin Creek	3,000 3,000 3,000 3,000 6,000 3,000
SAWYER COUNTY— Harry Shue, Hayward		5,000
SHAWANO COUNTY—  F. R. Schneider, Regina  H. F. Jahnke, Regina  E. J. McLean, Mattoon		3,000 3,000 6,000
SHEBOYGAN COUNTY— H. H. Eberhardt, Plymouth Peter Martch, Scott E. B. Robinson, Waldo B. H. Sanford, Sheboygan Falls	Mullet River North Brch., Milwaukee River Head-waters, Milwaukee Riv. Head, Milwaukee River	6,000 6,000 6,000 12,000
TREMPEALEAU COUNTY— O. O. Dahl, Whitehall. Jas. P. Mallory, Whitehall. W. S. Kidder, Whitehall. C. H. Cook, Look Out. Geo. Kindschi, Montana H. L. Ekern, Whitehall. M. C. Whipple, Eleva E. A. Oleson, Osseo F. G. Davis, Galesville.	Fly Creek Elk Creek Big Creek	3,000 3,000 6,000 6,000 3,000 3,000 3,000 3,000 3,000 3,000 3,000 3,000
VERNON COUNTY— H. A. Lombard, La Farge. Ole Fredrickson, Westby. Albert Corry, Viroqua. Jos. Boehrer, Viroqua. Anton Metby, Westby. Olef Roer, Westby. E. W. Hazen, Viroqua.  J. K. Schriner, Westby Gus. Morterud, Bloomingdale.  Carl O'Brye, Westby John E. Casson, Viroqua. Robert Hammer, Hillsboro.	Trib., Bear Creek Timber Creek Bishop Branch Sadie Branch Thiemeher Creek Upper Spring Creek Coe Branch Honaker Branch Spring Cooley Creek Tributary, West Brch., of Kickapoo River Coon Creek West Brch., Baraboo River and Tributaries	51,000 6,000 3,000 3,000 3,000 3,000 3,000 3,000 6,000 6,000 12,000

Name and Address of Applicant.	Where Planted.	No. of Fish.
VILAS COUNTY—  Bent Brothers, State Line A. McKenzie, Eagle River. Albert Boonttle, Woodrum.  Jesse Coon, Woodrum. D. H. Sargent, Conover. John Radcline, Eagle River. John Green, Eagle River. Henry Howlett, Conover. W. H. Cannon, Madison. John W. Sutton, Minocqua. Peter Stein, Star Lake Salsich & Wilson, Star Lake.  Geo. O. Tupper, Star Lake. D. B. Harvison, Star Lake. C. R. Beecher, Star Lake.	Deer-skin Creek South Brch., Manitowish Riv. Turtle Waters Sargent Creek Tribucary of Eagle River Hay-meadow Creek Buckatabon Creek Spring Branch Spring Brook Big Bauckatebew Manitowish River Lost Creek	6,000 6,000 6,000 6,000 6,000 6,000 42,000 6,000 3,000 3,000 3,000 3,000 3,000 3,000
WALWORTH COUNTY— H. L. Hâlverson, Whitewater C. B. Alrick, Whitewater H. M. Trippe, Whitewater Ed. Engleretsend, Whitewater Chas. S. Weeks, Whitewater	Pollock Creek Bluff Creek Gould Creek Big-spring Creek Tiger Creek	3,000 3,000 3,000 3,000 3,000 3,000 3,000 3,000 3,000
WASHBURN COUNTY— W. M. Kellene, Spooner C. W. Haskins, Spooner	Beaver Brook	30,000 3,000 3,000 6,000
WASHINGTON COUNTY— K. E. Klough, Rugby Junction  Henry Menger, Wayne S. F. Mayer, West Bend	south Brch., Cedar Creek North Brch., Cedar Creek Wayne Creek Gunther's Creek	6,000 3,000 3,000 6,000
WAUKESHA COUNTY— Henry Bowman, Genesee. A. T. Stebbins, Eagle. John Pfeister, Elm Grove. Harry Dreyer, Waukesha.  Irving F. Staps, Hartland. C. W. Frazer, Menomonie Falls.	White Creek Jericho Creek Spring Brook Jericho Creek Genesee Creek Bark River Menomonie River	18,000 6,000 3,000 6,000 3,000 6,000 6,000
WAUPACA COUNTY— E. P. Jones, Clintonville	North Pigeon River	33,000 3,000 3,000 3,000 6,000 6,000 6,000 3,000 3,000 33,000

Name and Address of Applicant.	Where Planted.	No. of Fish.
WAUSHARA COUNTY—  M. A. Fuller, Hancock. G. N. Spaulding, Hancock. H. F. Bartz, Coloma Station. L. F. Bishop, Coloma Station. Lewie Smith, Coloma Station. J. R. McLaughlin, Coloma Station. J. R. McLaughlin, Coloma Station. Jas. T. Ellarson, Wautoma. W. A. Bugh, Wautoma. D. Hoxie, Wautoma. W. L. Roberts, Wautoma.	Little Roch-a-cris Mecan River Wandrey Creek Runnels' Creek Hesler Creek Squires' Creek Big Roch-a-cris White River and Tributaries Wecan River Tributaries of Mecan River Lunch Creek	3,000 3,000 3,000 3,000 3,000 3,000 12,000 6,000 6,000
WOOD COUNTY— E. A. Benson, Vesper L. M. Nash, Centralia  Total distribution, 1898	Hemlock Creek	51,000 6,000 3,000 3,000 12,000 1,903,000

# RAINBOW TROUT DISTRIBUTION, 1898.

Name and Address of Applicant.	Where Planted.	No. of Fish.
ADAMS COUNTY— W. R. Atcherson, Friendship. C. M. Simons, Friendship. L. Knight, Arkdale. A. M. Glorweigan, Friendship. S. W. Pierce, Friendship.	Johnson Creek	5,000 2,500 2,500 2,500 2,500 5,000 2,500 2,500
ASHLAND COUNTY—  E. B. Gordon, Glidden Nohl and Yankee, Ashland C. F. Graf, Butternut  John J. Hayden, Butternut.  Hugo Schmidt, Glidden Geo. Sell, Glidden	North Fork, Chippewa River Little Butternut Creek Spille Creek Richter Creek Wartgow Lake East Fork, Chippewa River. Lake (no name) in Sec. 24— 24—3 W.	22,500 5,000 5,000 2,500 2,500 5,000 5,000
BARRON COUNTY— J. E. Horsman, Rice Lake. D. A. Russell, Dallas. T. W. Borum, Barron. C. C. Coe, Barron.	Silver Creek Sioux Creek Hay River Miller's Creek	30,000 5,000 5,000 5,000 5,000
CALUMET COUNTY— Anton Groschel, Charlesburg	Groschel's Springs	5,000
CHIPPEWA COUNTY— E. H. Rodgers, Bloomer E. A. Martin, Cadott S. R. Kaiser, Cadott.	Marstin Creek	2,500 2,500 5,000 5,000
CLARK COUNTY— Fred Klopf, Neillsville R. W. Balch, Neillsville  Ernest Barth, Snow G. R. Klopf, Neillsville G. I. Oatman, Chili John Stewart, Greenwood N. E. Denny, Abbotsford	Luck Chook	2,500 2,500 2,500 5,000 5,000 5,000 5,000 5,000
CRAWFORD COUNTY— C. A. Hoffman, Bell Center T. J. Lewis, Bell Center F. Brightman, Bell Center J. A. Hays, Gays Mills J. O. Davidson, Soldiers' Grove Tim Garrity, Soldiers' Grove	Turning Branch Curley Creek Hall Branch Bacon Creek Copper Creek Soldiers Grove Creek Knapp Creek Bear Creek	5,000 5,000 5,000 2,500 2,500 5,000 2,500 2,500

Name and Address of Applicant.	Where Planted.	No. of Fish.
DANE COUNTY— Albert Johnson, Black Earth Geo. Thatcher, Black Earth. T. J. Hughes, Black Earth. M. D. Perkins, Beliville	Big Spring Creek	2,500 5,000 5,000 5,000 2,500 2,500 5,000
DOUGLAS COUNTY— N. Lucius, Jr., Solon Springs. E. J. Favell, West Superior. William J. Conness, Brule. M. P. Nugent, Brule. C. T. Campbell, Brule.	Brule River Copper Creek Sandy Run Lucy Run Little Brule River	27,500 5,000 5,000 15,000 17,500 17,500
DUNN COUNTY— Ole Thompson, Menomonie  I. Sprague, Wheeler	Thorn Creek	2,500 2,500 5,000
EAU CLAIRE— Martin Stang, Eau Claire. Marshall Cousins, Eau Claire. A. A. Cutter, Eau Claire. B. S. Phillips, Eau Claire.	Rock Creek Elk Creek Otter Creek Coon Creek	10,000 20,000 5,000 5,000 5,000 5,000
FLORENCE COUNTY— J. T. Milks. Florence. S. T. Beattie, Florence.  Jas. Pontbriand, Florence. C. O. Allen, Florence. W. W. Noyes, Florence.	La Montague Creek La Page Creek La Montaign Creek Fisher Creek Pine River and Tributaries Boot-Lake Creek	5,000 2,500 2,500 5,000 5,000 5,000
Harvey Durand, Fond du Lac Chas. F. Ge.sse, Fond du Lac J. J. Gromme, Fond du Lac H. W. Geisse, Fond du Lac Paul J. Fritz, Fond du Lac Saml. H. Longdin, Fond du Lac	Byron Brook	25,000 2,500 2,500 2,500 2,500 2,500 2,500 2,500
GRANT COUNTY— L. C. McCollum, Muscoda Dighton Waite, Muscoda John Stransky, Muscoda E. C. Bryan, Boscobel. Chas, McMillan, Boscobel. A. De Voe, Boscobel. J. B. Johnson, Montfort. D. O. Eustice, Livingstone. J. W. Beetham, Fennimore. F. N. Kern, Fennimore. J. C. Kirkpatrick, Rewey F. B. Callis, Lancaster.		17,500 5,000 5,000 5,000 5,000 5,000 10,000 2,500 2,500 5,000 12,500 72,500

Name and Address of Applicant.	. Where Planted.	No. of Fish.
JACKSON COUNTY— J. B. Alward, Millston H. A. Bates, Sechlerville F. Dudley, Alma Center	Robinson Creek Lowe Creek	5,000 5,000 10,000
		20,000
JEFFERSON COUNTY— L. H. Washburne, Palmyra E. R. Trippe, Palmyra	Aurelin Spring Brook Palmyra Spring Brook	5,000 5,000
		10,000
JUNEAU COUNTY— John Conway, Elroy	Miller's Prairie Creek	5,000
LA CROSSE COUNTY—		
Alex. Johnson, West Salem  O. Evenson, West Salem Jas. McCord, La Crosse Benedict Ott, La Crosse Jas. J. Hogan, La Crosse	Adams Valley Creek	5,000 5,000 5,000 7,500 7,500 10,000
F '	-	40,000
LA FAYETTE COUNTY— H. A. Bresee, Benton	Fever River	5,000
LINCOLN COUNTY— H. A. Atcherson, Tomahawk John P. Hughes, Tomahawk	Spring Creek	5,000 2,500 5,000 2,500
Alex. F. Empey, Merrill	Day Mill Creek	5,000 5,000 12,500
		40,000
MARATHON COUNTY— R. W. Pinder, Wausau David Winton, Wausau Fred Genrich, Wausau J. M. Smith, Wausau Chas. Winton, Wausau John Miller, Wausau Neal Brown, Wausau C. S. Blair, Mosinee F. W. Heath, Spencer	Head of Plover River Winton Creek Eau Claire River Little Rib River. Plover River Mow Brook Eau Claire River Big Rib River Hog Creek Little Eau Pleine River.	5,000 2,500 2,500 2,500 2,500 2,500 5,000 5,000
		40,00
MARÎNETTE COUNTY— Geo. W. Taylor, Marinette  John Wood, Amberg John Huff, Wausaukee W. A. Brown, Marinette	North Brch., Thunder River South Brch., Thunder River Beaver Creek Pike River Wausaukee River Rat Creek Shepard Creek	5,000 5,000 10,000 10,000 5,000 5,000

Name and Address	When Dlented	No. of
of Applicant.	Where Planted.	Fish.
MARQUETTE COUNTY-		
Samuel Stowe, Oxford	Neenah River	2,500
C. E. Pond, Westfield	Montello River	5,000
C. E. Pond, Westfield	Montello River	2,500
	Campbell Creek	2,500
W. J. Ogle, Oxford	Huber Creek	2.500
Hans Stalker, Oxford F. W. Kline, Westfield Julius Warnke, Westfield H. E. Stalker, Oxford	Warden Creek Carman Creek	2,500
F. W. Kline, Westfield	Duck Creek	2,500 2,500
H W Stalker Oxford	Crooked Crook	$\frac{2,500}{2,500}$
Meinke & Behn, Westfield	Crooked Creek	5,000
arcinic et Denty		
		30,000
MONROE COUNTY—	Punch Cualt	2,500
Saml. Sloggy, Ontario	Brusk Creek	2,500
	Brev Creek	2,500
· ·	Brey Creek	2,500
Melvin Lawton, Warrens	Sand Creek	2,500
	Wymon Creek Whiskey Creek Taylor Creek	2,500
L. L. Gillette, Warrens	Whiskey Creek	5,000
C. H. Campbell, Cashton	Taylor Creek Brush Creek	2,500 $2,500$
	Drust Creek	
		25,000
ONEIDA COUNTY—	Page Lako	5,000
O. W. Sayner, Minocqua	Lake Alice	5,000
C. C. Tawacy, Haziendise	Date Till	
		10,000
PIERCE COUNTY-	G-1 C1-	. 0 500
C. W. Groot, Elmwood	Cady Creek	2,500 2,500
E. Holcomb, Spring Valley	Ven Gallo River	- 2,500
S I Fox Spring Valley	Cady Creek Cady Creek Fon Callo River Johnson Creek	2,500
S. J. Fox, Spring Valley	Gilbert Creek	2,500
B. F. Rastad, Spring Valley	Lousey Creek	2,500
B. F. Rastad, Spring Valley C. E. Cox, Spring Valley	Lousey Creek Gilbert Creek Little Missouri	2,500
W. S. Cheeney, Rock Elm	Little Missouri	5.000
D. W. Dutcher, Rock Elm	Rush River	5,000
A. O. Belfanz, Rock Elm	Little Missouri	5,000
		32,500
POLK COUNTY-		
Albert Rosenbush, Turtle Lake	Beaver Brook	2,500
·	Spring Brook	2,500
		5,000
PORTAGE COUNTY-		
Geo L Strong Bancroft	Duck Creek	5.00
A. C. Wilson, Amherst	To-morrow River	5,00
Geo. L. Strong, Bancroft	To-morrow River	2.50
Benjamin Flemming, Amherst	Een Creek	5,000
		17,50
RICHLAND COUNTY-		
A I Diekorson Lone Rock	Calaban Creek	2.50
Chas. Bowley, Lone Rock	Carl Creek	$\begin{array}{c} 2.50 \\ 2.50 \end{array}$
7		
Chas. Rowley. Lone Rock. M. D. Ellit. Lone Rock. H. W. Haskell, Sr., Lone Rock. J. L. Hodson, Lone Rock.	Weltzel Creek	2,50

Name and Address of Applicant.	Where Planted.	No. of Fish.
RICHLAND COUNTY—Continued. Aug. Scheele, Lone Rock. O. F. Taylor, Lone Rock. M. S. Bowler, Richland Center. C. E. Jaquish, Neptune. J. W. Ferguson, Woodstock.	Tennant Creek Meyer's Creek Willow Creek Tributary, Willow Creek Ferguson Creek	2,500 2,500 5,000 5,000 5,000
		32,500
ST. CROIX COUNTY— L. G. Greene, Hudson Dr. S. L. Pickett, Wilson	Willow River Gilbert Creek Beaver Creek	5,000 2,500 2,500
•		10,000
SAUK COUNTY— J. E. Morgan, Spring Green  S. P. George, Spring Green D. W. Morgan, Spring Green Barney Pronaid, Spring Green H. M. Acott, Baraboo J. W. Davis, Baraboo A. Coleman, Reedsburg W. E. Gosch, Reedsburg H. C. Hunt, Reedsburg R. P. Perry, Reedsburg J. E. Morgan, Spring Green W. B. Pearl, Baraboo	Howey Creek Wilson Creek Needham Creek Sugar Grove Creek Baxter Creek Helm's Creek Martin Creek Pine Creek Powers' Creek Behn Creek Copper Creek Twin Creek Winnie Creek Wyoming Creek Branch of Bear Creek	5,000 2,500 2,500 2,500 2,500 2,500 2,500 2,500 2,500 2,500 2,500 37,500 87,500
SHAWANO COUNTY— P. A. Holm, Tigerton J. Lehman & Son, Tigerton		5,000 5,000
		10,000
TREMPEALEAU COUNTY— E. A. Olson, Osseo Wm. McKivergin, Blair. Simon Bergsing, Blair O. P. Christianson, Whitehall. H. E. Simpson, Arcadia	Beef River	5,000 5,000 5,000 5,000 5,000
VERNON COUNTY— Robt. Hammer, Hillsboro  F. M. Minshall, Viroqua C. J. Skough, Westby  Frank S. Mott, Viroqua	Branch of Baraboo River Hohlfeldt Creek Heeling Creek Langor Creek Bishop Branch Harrison Branch West Brch., Kickapoo River. Spring Cooley Creek McGraw Creek	5,000 2,500 2,500 2,500 2,500 2,500 5,000 5,000
		32,000

Name and Address of Applicant.	Where Planted.	No. of Fish.
VILAS COUNTY— D. H. Sargent, Conover  Harvey Rowell, State Line A. McKenzie, Eagle River. W. J. Walsh, Eagle River. Salsich and Wilson, Star Lake.	Muskrat Creek Seven-mile Creek Iron Run Deer-skin Creek Skling Creek Plum Creek Lost Creek	2,500 2,500 5,000 5,000 5,000 5,000 5,000
WALWORTH COUNTY— A. B. Alrick, Whitewater H. M. Trippe, Whitewater Ed. Engleretsend, Whitewater Chas. S. Weeks, Whitewater	Brodway Creek Steeles Creek Big- spring Creek Tiger Creek	2,500 2,500 2,500 2,500 2,500 2,500 2,500 2,500 2,500
WASHBURN COUNTY— J. W. Harmon, Spooner WASHINGTON COUNTY—	Beaver Brook	5,000
Henry B. Kaempfer, West Bend  WAUKESHA COUNTY— W. H. Farmer. Eagle H. Bowman, Genesee H. Husten, Eagle T. H. Carlin, North Prairie Wm. H. Tuohy, Eagle R. H. Hunkins, Waukesha C. D. Van Brunt, Dousman		5,000 5,000 5,000 5,000 5,000 5,000 12,500 40,000
WAUPACA COUNTY— Ole C. Sether, Scandinavia  J. E. Phillips, Iola C. F. Taylor, Iola C. F. Taylor, Iola C. H. Bowers, Sheridan Thos. Morgan, Sheridan Thos. Morgan, Sheridan Thos. Morgan, Sheridan H. Olfson, Sheridan H. Olfson, Waupaca E. E. Chamberlain, Waupaca Guy Mumbrue, Cedar Lake Enor Lynch, Crystal Lake M. Ryan, Scandinavia Jas. H. Anderson, Ogdensburg M. S. Stroud, Symco C. H. Anderson, Scandinavia Campbell and Cameron, Oshkosh J. E. Lehr, Clintonville P. Stinson, Clintonville Otto Voelz, Leopolis	Pearl Creek Emmons Creek Tributaries to Perry Creek. Crystal Creek Cedar Creek Streams in Townships of- Scandinavia and Lawrence. Knudson Creek Shaw Creek Lovell Creek Lovell Creek Southwest Brch., Little Wolf. Whitcomb Creek.	2,500 2,500 2,500 2,500 2,500 2,500 2,500 2,500 2,500 2,500 2,500 2,500 2,500 2,500 2,500 2,500 5,000

Name and Address of Applicant.	Where Planted.	No. of Fish.
WAUPACA COUNTY-Continved. Chas. E. Johnson, Marble	Shaw Creek Smith Brook North Brch., Pigeon River Tributary to Waupaca River	5,000 2,500 2,500 2,500 2,500
WAUSHARA COUNTY— L. F. Bishop, Coloma Station Lewie Smith, Coloma Station. J. R. McLaughlin, Coloma Station A. O. Borst, Richford W. H. Piers, Stevens Point	Hesler Creek Challan Creek Mecan River	2,500 2,500 2,500 5,000 5,000
WOOD COUNTY— Severe A. Voyer, Centralia C. Lyon, Centralia Reuben Lyon, Centralia Chas. Briere, Centralia H. C. Trimm, Centralia E. A. Benson, Vesper	Railroad Creek Moccasin Creek Three-mile Creek Bloody Run	5,000 5,000 2,500 2,500 2,500 5,000
Total distribution, 1898		22,500

### WALL-EYED PIKE DISTRIBUTION—1898.

Name and Address of Applicant.	Where Planted.	No. of Fish.
ADAMS COUNTY— Jesse Kent, Strongs Prairie	Big Slough	150,000
ASHLAND COUNTY— Andrew Jacobsen, Glidden	Dryden Lake	150,000
BARRON COUNTY— T. W. Borum, Barron. E. W. Kingsbury, Perley. Andrew Ryan, Shell Lake. L. H. Meade, Shell Lake. W. B. Curtis, Shell Lake. Ole Wang, Shell Lake.	Shell Lake Shell Lake Shell Lake	200,000 200,000 500,000 500,000 250,000 250,000
·		1,900,000
BAYFIELD COUNTY— David Archibald, Cable Frank Hammill, Cable. John Brady, Iron River H. H. Augusta, Iron River C. C. Williams, Iron River. Frank Hammill, Cable David Archibald, Cable. Samuel Bally, Bayfield Henry Sykes, Bayfield.	Bass Lake Iron Lake Spider Lake Moon Lake Muscalonge Lake Bass Lake Long Lake Siskowit Lake	100,000 100,000 150,000 100,000 50,000 150,000 500,000 900,000 2,880,000
		5,430,000
CALUMET COUNTY— Jos. Wolfinger, Dundas	Woodville Lake	150,000
CHIPPEWA COUNTY— C. P. Parker, Chippewa Falls S. R. Kaiser, Cadott L. G. Chasman, Stanley Robt, Hunter, Eagleton C. A. Stanley, Chippewa Falls C. W. Bronsky, Bruce C. A. Greene, Appolonia G. M. Chamberlain, Bruce	Pike Lake Brown's Lake Camel Lake Popple Lake Amacoy Lake Deer Lake	150,000 150,000 150,000 100,000 200,000 100,000 100,000 100,000
COLUMBIA COUNTY— T. L. Purves, Wyocena Weber and Hurd, Fall River Rockafellow and Son, Fall River	Wyocena Mill Pond Fall River Dam North Brch., Crawfish River	1,050,000 150,000 150,000 150,000
DANE COUNTY— Wm. R. Bagley, Medison. Saml, Higham, Madison M. C. Clarke, Madison O. C. Vaughn, Jefferson H. G. Goodlad, Black Earth H. H. Willard, Mazomanie	Monona Lake Monona Lake Mendota Lake Lake Ripley Black Earth Pond Lake Marion	450,000 450,000 300,000 750,000 375,000 150,000 200,000 2,325,000

Name and Address of Applicant.	Where Planted.	No. of Fish.
DODGE COUNTY— G. Stolz, Beaver Dam H. A. Schluckebier, Beaver Dam D. J. Hotchkiss, Fox Lake John Stoddart, Fox Lake	Beaver Dam Lake	150,000 300,000 300,000 , 300,000
DOOR COUNTY— H. Overbeck, Jr., Sturgeon Bay	Clark's Lake Kankaroo Lake	375,000 375,000
DOUGLAS COUNTY— Rudolph Kriede, Gordon	Gartke Lake	750,000 100,000
FOND DU LAC COUNTY— Frank Beau, Calvary Peter McGalloway, Dotyville Steffes Bros., Wolf Lake	Wolf Lake Lake Wolf Wolf Lake	150,000 150,000 150,000
GRANT COUNTY— L. C. McCullum, Muscoda	Kendal Lake	450,000 150,000
GREEN LAKE COUNTY— Matt. Whitney, Berlin  H. R. McCullough, Chicago C. P. Hazeitine, Dartford	Crystal Lake	150,000 150,000 375,000 375,000
IRON COUNTY— Jos. Odgers, Mercer	Mercer Lake	1,050,000
JACKSON COUNTY—	Jim Lake	150,000 100,000 500,000
L. T. Branch. Sechlerville  JEFFERSON COUNTY H. C. Christians, Johnson Creek	Sechler's Mill Pond	150,000 375,500
KENOSHA COUNTY— Peter Steinbach, Kenosha F. H. Schenning, Silver Lake	Hooker Lake	$ \begin{array}{r} 375,000 \\ 750,000 \\ \hline 1,125,000 \end{array} $
KEWAUNEE COUNTY— D. W. Stebbins, Ahnapee Geo. M. Mashek, Kewaunee	Seidl Lake Kewaunee River above Dam	375,000 300,000
LA CROSSE COUNTY— A. J. Patterson, North Bend		675,000 150,000
LA FAYETTE COUNTY—  8. N. Briggs, South Wayne  E. P. Drake, South Wayne	Pecatonica River	150,000 150,000 300,000

Name and Address
Geo. Bremer, Summit Lake
LINCOLN COUNTY—
O. F. Headstream, Tomahawk.         Clear Lake         150,           H. A. Atcherson, Tomahawk.         Mirror Lake         150,           Howen & Flemming, Tomahawk         Crear Lake         150,           John P. Hughes, Tomahawk         Tomahawk         300,           W. H. Flett, Merrill         Lake View         600,           MARATHON COUNTY—         A. H. Wilson, Norrie         Mayflower Lake         150,           MARINETTE COUNTY—         Eagle Lake         300,           MARINETTE COUNTY—         Eagle Lake         300,           Julia Lake         150,           C. A. Budlong, Amberg         Beecher Lake         300,           I. J. Soo,         Lake         150,           MARQUETTE COUNTY—         Will Pond on White River         150,
H. A. Atcherson, Tomahawk. Mirror Lake 150, Howen & Flemming, Tomahawk Crear Lake 150, John P. Hughes, Tomahawk Tomahawk Lake 300, W. H. Flett, Merrill Lake View 600,  MARATHON COUNTY— A. H. Wilson, Norrie Mayflower Lake 150,  MARINETTE COUNTY— W. A. Brown, Marinette Eagle Lake 300, Julia Lake 300, Julia Lake 150, C. A. Budlong, Amberg Beecher Lake 300, L,800, C. MARQUETTE COUNTY—  Marguette County—  Mill Pond on White River. 150,
MARATHON COUNTY—
MARATHON COUNTY— A. H. Wilson, Norrie  MARINETTE COUNTY— W. A. Brown, Marinette  Eagle Lake Mary Lake Julia Lake C. A. Budlong, Amberg  Beecher Lake  MARQUETTE COUNTY— Thos Wells Ir Neshkaro  Mill Pond on White River.  150,  Marguette  Mill Pond on White River.  150,  Marguette County— Thos Wells Ir Neshkaro
A. H. Wilson, Norrie
W. A. Brown, Marinette Eagle Lake 300, Mary Lake 300, Julia Lake 150, C. A. Budlong, Amberg Beecher Lake 300, 300, L. L. Thos Wells Ir Neshkoro Mill Pond on White River 150, 150, 150, 250, 250, 250, 250, 250, 250, 250, 2
MARQUETTE COUNTY— Thus Wells Ir Veshkoro Will Pond on White River. 150.
MARQUETTE COUNTY— These Wells Ir Neshkoro Mill Pond on White River 150.
MARQUETTE COUNTY— Thus Wells Ir Veshkoro Will Pond on White River. 150.
MARQUETTE COUNTY— Thus Wells Ir Neshkoro Will Pond on White River. 150
MARQUETTE COUNTY— Thos Wells Ir Neshkoro Will Pond on White River 150.
1,650
MONROE COUNTY— F. L. French, Sparta
OCONTO COUNTY— C. S. Hart, Oconto
ONEIDA COUNTY— L. A. Harrison, Harshaw Lake Claire 150
L. A. Harrison, Harshaw Lake Claire 150. C. C. Yawkey, Hazlehurst Kaubeschien Lake 300 John Davelin, Pract Junction Sugar Camp Lake 150. Fred Tripp, Rhinelander Post Lake 150 F. A. Hildebrand, Rhinelander Hildebrand Lake 150 Jas. E. Wood, Woodboro Lake Jenny 150
1,050
OZAUKEE COUNTY— William Weber, Grafton. Milwaukee River 300 P. J. Kroehnke, Thiensville. Milwaukee River 300 Wm. H. Horn, Cedarburg. Milwaukee River 300
900

Name and Address of Applicant.	Where Planted.	No. of Fish.
POLK COUNTY—  S. M. De Golier, Richardson	Little Round Lake	200,000 150,000 150,000 100,000 100,000 100,000 100,000 100,000
PORTAGE COUNTY—  M. S. Murat, Amherst Junction. P. N. Peterson, Amherst O. L. Gordon, Nelsonville. J. N. Ranbeck, Peru. John Een, Amherst B. B. Park, Stevens Point A. T. Bacon, Stevens Point G. O. Guliikson, Nelsonville F. H. Young, Lone Pine.	Lime Lake Nelson's Mill Pond. Reedsberg Lake Ebert Lake Wisconsin River Wisconsin River	1,100,000 375,000 150,000 150,000 150,000 150,000 150,000 150,000
PRICE COUNTY— Hugh Boyd, Fifield Magnus Pearson, Ogema	Bass Lake	1,575,000 150,000 150,000 300,000
RACINE COUNTY— Waller & Gittings, Burlington	Brown's Lake	375,000
RICHLAND COUNTY— H. W. Haskell, Sr., Lone Rock J. H. Sumner, Lone Rock	Harter Mill Pond Smith's Lake	·150,000 150,000
ROCK COUNTY— Richard Valentine, Janesville	Rock River	300,000 300,000 300,000
ST. CROIX COUNTY— L. G. Greene, Hudson	Bass Lake	600,000 200,000
SAUK COUNTY— Frank Ramsdale, Madison	Planted in Devil's Lake Baraboo River	375,000 300,000 150,000
SAWYER COUNTY— H. B. Shue, Hayward	"T" Lake	825,000 250,000
SHAWANO COUNTY— O. A. Risum. Pulcifer Rustic Resort Co., Embarrass  7. A. Adams. Embarrass E. M. Wescott, Shawano C. D. E. Wescott, Shawano	Shawano Lake Round Lake Pine Iake Grass Lake	150,000 150,000 150,000 150,000 150,000 150,000 300,000

Name and Address of Applicant.	Where Planted.	No. of Fish.
SHEBOYGAN COUNTY— R. G. Arnold, Glenbeulah Floyd B. Hesler, Glenbeulah. G. Lammers, Cedar Grove Simon Dohmier, Franklin J. C. Schmidler, Decada	Mullett River Cedar Lake Onion River Herman Lake Grahser's Lake	150,000 150,000 150,000 150,000 300,000
MINT OD COTAINS		900,000
TAYLOR COUNTY— C. B. Powell, Medford Fred Myres, Prentice	Nigger Lake	150,000 150,000
		300,000
TREMPEALEAU COUNTY— L. L. Odell, Galesville. F. G. Davis, Galesville. Jas. P. Mallory, Whitehall. P. L. Solberg, Whitehall. H, E. Simpson, Arcadia S. E. Bergsing, Blair.	Galesville Mill Pond	150,000 150,000 150,000 150,000 150,000 150,000
		900,000
VILAS COUNTY— Oscar Hill, Minocqua. O. W. Sayner, Minocqua. Harvey Selleck, Minocqua. Salsich & Wilson, Star Lake. Albert Doollitch, Woodruff. Patrick Brazel, Woodruff. C. J. Coon, Woodruff. John B. Mann, Woodruff. Bent Brothers, State Line.	Hill Lake Plum Lake Tomahawk Lakes Star Lake Dramond Lake Spider Lake Trout Lake Trout Lake Black Oak Lake	150,000 225,000 150,000 300,000 225,000 150,000 150,000 225,000 150,000
Harvey Rowell, State Line	Merrill Lake	$150,000 \\ 75,000$
Henry Howlett, Conover  A. McKenzie, Eagle River Fred Morey, Eagle River D. E. Riordan, Eagle River	Goose Lake Lake (no name) Big Bass Lake Cranberry Lake Gordon Lake	150,000 225,000 150,000 375,000
		3,000,000
WALWORTH COUNTY— Frank L. Frazer, Lake Beulah F. F. Southr, Caldwell B. F. Food, Waterford William Arnold, Sharon J. C. Reynolds, Lake Geneva Frank S. Moore, Lake Geneva	Lake Beulah Potter's Lake Potter's Lake Tichigan Lake Turtle Creek Lake Geneva	225,000 225,000 150,000 150,000 300,000 450,000 300,000
TYLOTING DOLLARS		1,800,000
WASHINGTON COUNTY— S. F. Mayer. West Bend. M. Wilson. Hartford. John Rosenheimer, Schleisingerville. Geo. Reilly, Lake Five	Cedar Lake Wilson's Lake Big Cedar Lake Li <sup>‡</sup> tle Cedar Lake Lake Five	300,000 450,000 375,000 375,000 150,000
		1,650,000

Name and Address of Applicant.	Where Planted.	No. of Fish.
WAUKESHA COUNTY— C. A. Buskirk, Okauchee O. K. Mann, Oconomowoc Frank P. Ziegler, Milwaukee A. Melcher, Okauchee John C. Koch, Milwaukee L. Maschouser, Nashotah A. C. Reitbrock, Hartland Wm. H. Tuohy, Eagle B. J. Runwill, Hartland	Denoon Lake Okauchee Lake Pine Lake Okauchee Lake	300,000 375,000 150,000 375,000
WAUPACA COUNTY— S. C. Nessling, Waupaca W. L. Wilson, Springwater M. Rayn, Scandinavia. Chas. H. Anderson, Scandinavia M. S. Stroud, Symeo J. E. Phillips, Iola J. J. Hangartner, Marion. Theo, Buettner, Caroline M. W. Stinemates, Crystal Lake	Whitcomb Lake Silver Lake Little Wolf River Jola Mill Pond Hopkin's Lake Embarrass River	150,000 150,000 150 00
WAUSHARA COUNTY— Chas. Fice, Terrill W. A. Rugh, Wautoma G. N. Spaulding, Hancock J. W. Gray, Hancock W. C. Wiley, Hancock W. H. Campfield, Hancock L. W. Beach, Hancock M. A. Fuller, Hancock F. M. Smith, Coloma	White River Fish Lake Deer Lake Fish Lake Pine Lake Hancock Lake Hancock Lake	300,000 300,000 300,000 300,000 150,000
WINNEBAGO COUNTY— John Maag, Oshkosh  WOOD COUNTY— T. E. Nash, Nekoosa W. W. Meade, Centralia Jas. Bogoger, Centralia Geo. L. Williams, Centralia Geo. M. Huntington, Grand Rapids. M. Curtin, Grand Rapids L. M. Nash, Centralia	Wisconsin River Centralia Mill Pond Wisconsin River Wisconsin River Wisconsin River Wisconsin River	4,375,000 150,000 150,000 150,000 150,000 150,000 150,000 150,000
Total distribution, 1898		53,980,000

### LAKE TROUT DISTRIBUTION, 1897.

Where Planted.	
Off from Milwaukee Off from Ahnapee Noquebay Lake, Marinette County Long Lake, Washburn County Hammil Lake, Bayfield County Chain O'Lakes, Waupaca County Green Lake, Green Lake County Lake Mendota, Dane County Shell Lake, Washburn County Mud Lake, Washburn County Bass Lake, Bayfield County Long Lake, Bayfield County Long Lake, Bayfield County Cable Lake Bayfield County	180,000 60,000 240,000 360,000 180,000 12,000 60,000
Cable Lake, Bayfield County Whitefish Lake, Douglas County Wood Lake, Shawano County (Fingerlings). Chequamegon Bay Total distribution, 1897.	120,000 10,000 7,675,000 10,010,000

#### LAKE TROUT DISTRIBUTION, 1898.

Where Planted.	
Off from Milwaukee Off from Two Rivers Off from Kenosha Off from Fort Washington Off from Algoma Off from Sheboygan Off from Sturgeon Bay Chain O'Lakes, Waupaca County Wanby Lake, Oconto County Shell Lake, Washburn County Lake Monona, Dane County Chequamegon Bay  Total distribution, 1898	153,000 153,000 153,000 153,000 153,000 153,000 150,000

#### WHITEFISH DISTRIBUTION, 1897.

Where Planted.	No. of Fish.
Off from Big Sturgeon, Sturgeon Bay Off from Squaw Island, Little Sturgeon. Off from Green Island, Lake Michigan. In Whitefish Bay, Lake Michigan In Chequamegon Bay, Lake Superior.  Total for 1897	2,000,000 4,000,000 2,000,000 2,000,000 8,000,000 18,000,000

#### WHITEFISH DISTRIBUTION, 1898.

Where Planted.	No. of Fish.
In Chequamegon Bay, Lake Superior	3,000,000

### BLACK BASS DISTRIBUTION, 1897.

Wood Lake, Marquette County. Berry Lake, Shawano County  Total distribution, 1897	
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6 Fish.

#### BLACK BASS DISTRIBUTION, 1898.

Where Planted.	No. of Fish
cock Lake, Jefferson County Lake, Lincoln County Lake View, Lincoln County Lark's Lake, Door County Langaroo Lake, Door County Langaroo Lake, Door County Langaroo Lake, Kewaunee County Langaroo Lake, Waukesha County Lake, Kewaunee County Lake, Sauk County Lake, Sauk County Lake, Walworth County Lake, Walworth County Lake Lake, Sheboygan County Lake Lake, Washington County Lake, Lake, Sauk County	 4,000 6,400 3,000 2,900 2,500 2,500 8,200 10,000 9,600 10,200 2,600 5,000 8,000 7,000
ake Mendota, Dane County	 2,000 5,000

#### WHITE BASS DISTRIBUTION, 1897.

Where Planted.	
Fox Lake, Dodge County LaBelle Lake, Waukesha County Oconomowoc Lake, Waukesha County Okauchee Lake, Waukesha County Pine Lake, Waukesha County Prine Lake, Green Lake County Prine Lake, Waukesha County Forest Lake, Waukesha County Cedar Lake, Washington County Swan Lake, Columbia County Swan Lake, Columbia County Swan Lake, Columbia County La Belle Lake, Waukesha County La Belle Lake, Waukesha County La Belle Lake, Waukesha County Cocnomowoc Lake, Waukesha County Pike Lake, Washington County Lauderdale Lakes, Walworth County Green Lake, Green Lake County Lake, Geneva, Walworth County Lake Geneva, Walworth County Lake, Geneva, Walworth County Lake, Sheboygan County Lake, Sheboygan County Devil's Lake, Sauk County	300 300 600 625 450 350 200 450 200 200 100 250 250 650 300 700 650
Total distribution, 1897.	9,115

#### DISTRIBUTION OF WHITE BASS, 1898.

Man 2	Dianted in	Oconomowoc Lake, Waukesha County	500
May 3.	Flanted in	La Belle Lake, Waukesha County	500
May 4.		Chain O'Lakes, Waupaca County	225
May 4.		Codan Lake, Washington County	350
May 4.		Cedar Lake, Washington County	
May 5.		Fox Lake, Dodge County	500
May 5.		Devil's Lake, Sauk County	500
May 6.		Lake Beulah, Walworth County	500
May 7.		Lake De Nevu, Fond du Lac County	500
May 7.		Green Lake, Green Lake County	550
May 7.		Oconomowoc Lake, Waukesha County	500
May 9.		Nemahbin Lake, Waukesha County	500
May 9.		Pewaukee Lake, Waukesha County	500
May 9.		Shawano Lake, Shawano County	550
May 10.		Cedar Lake, Washington County	500
May 10.		Pike Lake, Washington County	500
May 10.		Rock Lake, Jefferson County	495
May 11.		Chain O'Lakes, Waupaca County	500
May 11.		Okauchee Lake, Waukesha County	600
May 11.		Lake Ripley, Dane County	550
May 12.		Brown's Lake, Racine County	600
May 12.		Nagawicka Lake, Waukesha County	300
May 12.		Pine Lake, Waukesha County	300
May 12.		Golden Lake, Jefferson County	525
May 13.		Lake Emily. Portage County	625
May 13.		Pine Lake, Waukesha County	600
May 13.		Pelican Lake, Oneida County	500
May 14.		Pardeeville Lake, Columbia County	500
May 14.		West Lake, Columbia County	100
May 15.		Hooker Lake, Kenosha County	275
May 15.		Paddock's Lake, Kenosha County	275
May 16.		Nemahbin Lake, Waukesha County	500
May 17.	_	Noquebay Lake, Marinette County	625
May 17.		Nashotah Lake, Waukesha County	500
May 17.		Mercer Lake, Iron County	500
		Lake Geneva, Walworth County	500
May 18. May 20.		Powley Lake Kenesha County	550
May 20. May 20.		Fowler Lake, Kenosha County	550
May 20. May 21.		Ocenomoweca Lake Wankesha County	500
		Sugar Piver Pond Green County	600
May 23. May 23.		Sugar River Pond, Green County.  Nagawicka Lake, Waukesha County.  Black Oak Lake, Vilas County.	500
		Block Oak Lake, Walkesha County	525
May 23.		Second Lake Done County	500
May 24.		Second Lake, Dane County	550
May 25.		Berry Lake, Oconto County	600
May 25.			500
May 26.		Green Lake, Green Lake County	500
May 26.		La Belle Lake, Waukesha County Devil's Lake, Sauk County	500 500
May 27.		Devil 8 Lake, Sauk County	500 500
May 27.		La Belle Lake, Waukesha County	
			23,420

Note.—The white bass planted as per above statements were mature or full-grown fish, ripe for spawning.

#### DISTRIBUTION OF MUSKELLUNGE FRY, 1897.

Where Planted,	No. of Fish.
Lost Lake, Sawyer County Lake DeNeavu, Fond du Lac County Green Lake, Green Lake County	200,000
Total distribution, 1897	1,100,000

#### DISTRIBUTION BY HATCHERIES.

1897.

MADISON HATCHERY

OSHKOSH STATION.
Wall-eyed pike

MADISON HATCHERY.  Brook trout Rainbow trout  MILWAUKEE HATCHERY.  Whitefish	1,949,000 1,191,000	3,140,000
Wall-eyed pike  BAYFIELD HATCHERY.	15,300,000	33,300,000
Lake trout (fty) Lake trout (fingerlings) Wall-eyed pike	10,000,000 10,000 8,000,000	18,010,000
1898.		
MADISON HATCHERY.  Brook trout	1,574,000 1,155,000 150,000	2,879.000
BAYFIELD HATCHERY.  Brook trout Lake trout Wall-eyed pike Whitensh	328,500 7,362,000 11,380,000 3,000,000	22,070,500

42,600,000

# Summary of Distribution—Fish Car "Badger."

#### SUMMARY OF DISTRIBUTION, ALL KINDS, 1897 AND 1898.

	1897.	1898
Brook trout Rainbow trout Lake trout (fry) Lake trout (fingerlings) Whitefish Wall-eyed pike Muskellunge Black bass White bass	1,949,000 1,191,000 10,000,000 10,000 18,000,000 23,300,000 1,100,000 4,500 9,115	1,092,500 1,155,000 7,512,000 3,000,000 53,980,000 112,200 23,420 67,685,120

# MILES TRAVELED BY THE FISH CAR, "BADGER", OVER THE SEVERAL RAILWAY LINES IN WISCONSIN DURING THE YEARS 1897 AND 1898.

,	1897.	1898.
C., M. & St. P. Ry C. & N. W. Ry C. St. P., M. & O. By Wisconsin Central Lines G. B. & W. Ry C., B. & N. Ry K., G. B. & W. Ry A. & W. Ry	6,469 5,527 3,182 3,065 296 	5,976 7,825 2,165 4,147 482 706 148

#### MEALS SERVED ON THE FISH CAR, "BADGER", 1897 AND 1898.

1897 1898	1,166	14c. 11.5c.

#### REPORT OF STATE FISH AND GAME WARDEN.

To the Honorable, the Commissioners of Fisheries:

Gentlemen:—Pursuant to section 1498l, chapter 62, R. S. 1898, I beg leave to submit the following report for the past year:

Total number of arrests reported	614	
Total number of convictions reported	. 511	
Amount of fines reported \$6	6,415.00	
Number resident deer licenses issued, 1897	11,479	
Number resident deer licenses issued, 1898	11,913	
Number non-resident deer licenses issued, 1897	38	
Number non-resident deer licenses issued, 1898	29	
Received from sale of confiscated game	\$650.00	
Number persons sent to jail for default in payment of fine	39	
There has been destroyed, as provided by law, nets, boats, set-		
lines, and other public nuisances having an estimated value		
of\$15,000.00		
Upwards of 100 miles of gill nets have been seized and destroyed.		

In addition to the number of cases reported above there are several now pending.

While I have not been able to ascertain the amount of compensation paid to county wardens, I am sure the receipts from licenses, fines and sale of confiscated game will fully cover the expenses of this department.

The report of the work of this department during the past year is not as complete as desirable, owing to the failure of many local wardens to make report to this office, but the above, which is practically the work of the special deputies only, is sufficient to show that an earnest and conscientious effort has been made to enforce the fish and game laws of this state and these efforts have met with greater success than ever before.

#### WARDEN SYSTEM.

Experience convinces me that the county warden system, if not entirely a failure, is very far from satisfactory, and if the best results are to be looked for some other system should be adopted. It is difficult if not impossible to get persons fitted for the work to accept an appointment where the compensation at the best is small and the work if properly performed requires much time. Much of the work of a faithful warden is not apparent because in a large number of the investigations necessarily made upon complaints or suspicion sufficient proof is not obtainable to warrant proceedings and the public generally is therefore unaware of the work which has been done. Many days of weary watching and waiting and much travel and exposure are necessary many times before an offender is captured or the appurtenances illegally used by him are discovered and destroyed. Again in case of local wardens the offenders are his neighbors and he dislikes to get their ill-will by causing their arrest.

The only way to have efficient service is to have a force of deputies selected because of their fitness for the work expected of them, and pay them so that they can afford to give their time and best efforts to the work. Such men can be readily found if they are paid sufficient so that they can make this work their business.

The legislature of 1897 provided for the appointment of five special deputies in this state, and the results of the work of these officials since that law took effect fully demonstrates what might be accomplished if this system was extended. As before stated the showing of the work accomplished during the past year is practically all the work of these special deputies, and fully warrants the recommendation which I earnestly make that this system be extended. A force of twenty to thirty men selected be-

cause of their fitness for this kind of work, and who could be sent at any time to any part of the state where their services are most needed would be worth an army of local men, as they would be removed from the influences which renders the work of the local men most unpleasant and difficult, and would be receiving sufficient compensation so that they could give their whole time and attention to their work.

Experience has shown that much can be accomplished by a stranger in a community where the local men have utterly failed in their attempts to enforce the law. I cannot too strongly urge the necessity for a larger force of special deputies as the work requires it and I know the results that will follow the adoption of this recommendation will prove its wisdom. As some counties bordering on large lakes, or which have numerous small lakes might deem it advantageous to have local wardens to assist in the work of protecting the fish in their waters I do not recommend the abolishment of the county warden system entirely, but would provide that the appointment of county wardens be left optional with the counties, their appointment to be made by some board designated by law, and that they be responsible to said board. I would only require that the results of the work of such county deputies be reported to this department either by the deputies themselves or the board to whom they report so that they may become a source of statistical information.

#### LICENSE LAW.

The deer license law enacted by the legislature of 1897, although imperfect, has been beneficial in regulating the hunting of that animal. It has been the means of giving for the first time a line upon the great army of hunters who annually engage in the chase for this animal, and it will

doubtless be a surprise to most people to learn that during the past two years there has been each year about 12,000 deer licenses issued in this state. The number of resident hunters is no greater than before the enactment of the license law, but owing to the heavy non-resident license fee from 3,000 to 5,000 non-resident hunters who formerly came here to hunt deer have been kept out of the state. It would seem that with such an army of hunters the deer of this state would be exterminated within a few years, but woodsmen and others in a position to know, san that they are yet plentiful. It is but reasonable to suppose, however, that if this vast army of hunters continue to pursue them annually they must decrease in number unless stringent regulations are adopted to protect them.

In another part of this report I have strongly recommended an extension of our special warden system. As the adoption of this recommendation would increase the expense of this department, I would further recommend the enactment of a general hunters license law. For residents of the state I would suggest that this license be fixed at a sum that would not be burdensome, but which would raise sufficient revenue to meet the expenses of this department. I am fully satisfied a license of one dollar would be sufficient to raise all the money necessary to pay the operating expenses of the department under the proposed extension of the special warden force. I would therefore recommend that a resident hunter's license of one dollar be fixed for each person desiring to hunt any of the birds or animals protected by the laws of this state.

As the expense of propagating, distributing and feeding the fish and game falls upon the people of this state, it is only just to our own people that non-residents be required to pay a larger fee for a license. I would suggest that the license fee for non-residents be made not less than five dollars, or more if deemed just and proper. It should be

understood that this license fee applies to the hunting of game except deer, the deer license to remain as fixed by the representatives of Michigan, Minnesota, Wisconsin and other states, at one dollar for residents and twenty-five dollars for non-residents. Should these recommendations be accepted and laws enacted carrying them out the expense of the enforcement of the fish and game laws would fall where, in my opinion, it rightfully should, upon those who enjoy the pleasure of hunting and receive the direct benefits derived from the proper protection of our fish and game, and no burden would be placed upon the state in consequence of the extension of the special warden force.

#### GENERAL SUGGESTIONS.

The large number who hunt and fish in this state makes it necessary, if our fish and game are to be preserved, that great care should be taken in fixing the proper open seasons, so as to have them interfere as little as possible with the breeding, nesting and spawning seasons. I would suggest a later season for deer, as the does would then be in hiding and therefore a less number would be killed. would also insure colder weather, so that the animals killed could be better preserved. Animals fatally wounded would be less likely to escape, only to become the prey of wolves or other wild animals, if there was snow on the ground, so they could be followed to where they fall after being shot. The number of accidents and loss of human life during the deer season, from carelessness, inexperience and the use of powerful modern firearms is a matter that should receive consideration, and, if possible, some means devised to lessen the danger.

The danger to human life from the set gun and the practice of "shining" is so great that both should be discouraged by the severest of penalties. Both, in my opinion, should be made penitentiary offenses.

As the great inducement for extensive violation of our fish and game laws is the profits enjoyed from illegal acts by the sale of the fish and game, more stringent laws should be enacted governing dealers and transportation companies. To carry out these laws wardens should be clothed with as much authority as possible so that they may examine packages offered for shipment or discovered in transit which are believed to contain contriband goods. Since the enactment of the law prohibiting the shipment of feathered game out of the state numerous attempts have been made to evade the same. Shipments were made to some point near the state line to some ficticious person with the intent of having them reshipped to points outside the state. During last fall hundreds of dollars worth of grme birds were thus shipped to Milwaukee. When thus shipped the game should become contraband and subject to seizure and sale by the state. No venison should be permitted under the law to be shipped outside the state except where a nonresident coupon is attached to same. The license law should provide for the cancellation of all coupons when shipments are offered. No person should be permitted to have in his possession the coupons taken from the license of another.

The open season for brook trout is in my opinion too long in this state and should be closed one month earlier. It is a very noticeable fact that notwithstanding the large number of trout fry planted annually the number of trout is steadily growing less. This is not surprising when the streams are whipped constantly by thousands of people from April to September. In this connection it might be well to consider the advisability of limiting the season for the use of artificial flies in fishing for trout. This would prevent the taking of thousands of small fish. Wisconsin with its numerous and beautiful lakes, rivers and brooks, its vast forests, expansive prairies and extended marshes

is the natural home of a great variety of fish, game animals and game birds, and these can be made a great source of revenue to the people of this state by the enactment of wise and practical laws looking to their preservation.

Every person who comes within our borders to hunt or fish leaves several times the value of whatever he gets in the way of fish and game with our people. It is far better to have people from outside the state come here for their fish and game than it is to ship the game to an outside market. Not, therefore, from a sentimental but from a business point of view, the subject of the preservation of our fish and game demands careful consideration. The older states of the union realize this and are putting forth every effort to improve their present conditions in this respect. It is stated on what is believed to be good authority that about three million dollars are annually left in Maine by people who are attracted there by the hunting and fishing to be had in that state. I can see no good reason why Wisconsin with all its natural resources in this direction, with proper laws to guard them, cannot be made equally as attractive and reap as great benefit from the advantages which nature has so liberally bestowed upon her.

Added to what nature has done for our state is the work of our commissioners of fisheries. Their efferts to replenish our waters have been crowned with great success, and with improved facilities they can do much more in the future. Already their earnest and successful work has attracted attention and given to them a deservedly wide reputation in their line.

To the work of fish culture might be added the breeding of game birds. Other states have taken hold of the work of hatching and planting pheasants, and are meeting with success. Private individuals in this state have demonstrated that game birds can be successfully reared here

and with the great abundance of natural cover to be found in all parts of Wisconsin there is no doubt but that if the matter was taken hold of in earnest its good results would soon be made apparent.

The success or failure of officials to enforce our fish and game laws depends largely upon public sentiment who have given this matter any attention must have discovered that there is a growing better sentiment in favor of the enactment and enforcement of wise laws looking to the preservation of our fish and game. No better evidence of this is needed than can be found in the fact that little difficulty is now met in securing convictions upon proof of guilt, where a few years ago any attempt to prosecute a case of this nature was little better than a farce. Local clubs or organizations do much to build up a healthy sentiment and assist the officials in the work of enforcing the laws and should be encouraged by all true sportsmen. The prejudice formerly existing against laws for the protection of fish and game, on the thecay that they were inspired by and enacted in the interest of city sportsmen, if not entirely gone, is rapidly passing away, and with it a great handicap to the enforcement of these laws. The decision of our courts sustaining the rights of the public as against club men who have endeavored to gain a monopoly of some of the best hunting and fishing grounds, has done much to dispel this prejudice, and it will be fortunate when the desire to have wise laws enacted for the preservation of our fish and game is sufficiently strong to overcome all feelings of selfishness.

At the last session of the legislature a committee was appointed to meet with representatives from neighboring states for the purpose of securing more uniform game laws. A meeting was held in Chicago in the winter of 1898 and was attended by representatives from Illinois, Ohio, Michigan, Minnesota, North Dakota and Wisconsin.

After a careful consideration of the subjects before it the convention selected a committee of which Senator Green of this state was made chairman, to draft a bill covering the points considered. This has been done and will be presented to the legislature at the present session. Many of its features are very important and if enacted into law will result in much good.

Respectfully submitted,

J. T. ELLARSON,
State Fish and Game Warden.

# ARTIFICIAL PROPAGATION VS. CLOSE SEASON FOR THE GREAT LAKES.

(A paper read by Superintendent Nevin at a meeting of the American Fisheries Society, at Omaha, Neb., July 22, 1898.)

In as much as some of the states have passed laws making a close season for fishing on the great lakes during the spawning season of certain kinds of fish, expecting thereby to accomplish greater results in increasing the supply of fish thus propelled to devote my paper, for the most part, to an expression tected than is derived from artificial propagation, I am imof my views of the relative value of the two methods of increasing the supply of valuable food fish in those lakes. It is true that both methods may be employed in the great lakes at the same time, and perhaps with good results; but if both are employed at the same time in the same waters, if the desired increase of fish be forthcoming, the question will then arise as to which method we are to attribute the results; and in consequence it may end in the abandonment of one method for the other, and possibly in the uncertainty of the case, the abandonment of the method which has done the most to bring to us the

desired increase of fish. For this reason it seems apropos at this time that a discussion and investigation of both methods be made here and now relative to the results which have been obtained from both methods as employed in the past at different points, together with a presentation of the arguments for and against both methods. We know something of the apparent results from both methods and we have considerable knowledge of both methods. We have the experience of practical men and the conclusions they have drawn, pro and con, which we may discuss here at this time, and thus place on the records of the American Fisheries society our views and our knowledge of these matters; which may be of benefit or at least of interest to those who take up the work of fish culture after it has passed from our hands and Old Time has applied his scythe to the line which binds us to our vocation.

Personally, I have been on the various spawning grounds of the whole chain of great lakes from the gulf of St. Lawrence to Lake Superior during the spawning seasons, and have many times watched the salmon, whitefish and wall-eyed pike spawn in their natural way; and I am convinced that but a very small percentage of the eggs so deposited are fertilized. If as large a number of eggs become impregnated, as is claimed by some people, in the natural process, I inquire, what becomes of the fish after they are hatched? When we come to take into consideration the number of eggs that each female whitefish, lake trout, or wall-eyed pike will produce, we may well make this inquiry. A four pound whitefish will produce 50,000 eggs; a six pound lake trout will produce 8,000 eggs; and a five pound wall-eyed pike will produce about 100,000 eggs.

Some years ago, I had some experience watching whitefish spawn in pens on the Detroit river. The female fish would come to the top of the water and throw her eggs whether there was a male fish in her vicinity or not. To me it seems impossible that the male fish can fertilize ome egg in a million that are thrown off by the female when I know that it is absolutely

necessary that the milt come in contact with the eggs immediately after they are thrown off by the female and while the micropyle is open to receive it; and when I consider the small amount of milt possessed by the male and the manner in which it is thrown off into a large body of water.

Another circumstance that confirms me in my belief as to the small number of eggs fertilized by the natural process is the order in which the male and female fish come on to their spawning beds. In the great lakes, the first run of fish in spawning time are males. They are followed in a few days by the females, and in taking spawn from this second run of fish, seven-tenths of the fish taken are females, and it is a difficult matter to get enough male fish to fertilize the eggs taken. It frequently occurs that pails full of eggs are thrown overboard because enough male fish cannot be procured to impregnate them. A few days after the run of females has passed off, a run of small male fish comes on. I have heard many people say that this run of male fish will impregnate the eggs of the earlier run of females. But those of us who have had experience in practical work know that the eggs cannot be fertilized after they have left the fish two hours. Then again, a large part of the eggs which become impregnated are lodged among those which are not fertilized and the fungus growth, with which all fish culturists are familiar, spreads over the mass. and the percentage that hatches must be very small.

The only way that I can suggest that will ever enable us to form an accurate idea of the number of whitefish eggs impregnated naturally is to have a diver go down on the reefs and bars just after the fish get done spawning, and gather up a few gallons of eggs which may be placed in a hatchery and the results noted.

Last fall, I spent three half days on a trout stream and examined numerous spawning beds at the time the trout were spawning in the stream. I had such apparatus as I thought necessary to obtain any eggs that might be on the beds, but we

did not find a single egg in any nest that we examined. My purpose was to find the percentage of trout eggs impregnated by the natural process. I shall follow up this work again this fall, and hope for better results.

There are very few good trout streams in which less than one thousand trout spawn naturally each year. These trout should average at least two hundred eggs each, two hundred thousand deposited eggs making thousand the stream each year. If five trout hatched and come to maturity, this should certainly be enough to keep the stream well stocked with trout. But our experience teaches us that it does not matter how well a stream is stocked, if it is fished to any extent for two or three seasons, fry must be supplied from the hatcheries if it is to continue to produce good fishing.

I have done some figuring on my own account to get at the number of whitefish eggs, deposited naturally, required to produce one mature fish weighing two and one-half pounds. I have taken the whole number of pounds of whitefish caught on the chain of great lakes, i. e., Lakes Superior, Huron, Michigan, St. Claire, Georgian Bay and Lake Erie (not including fish taken from Lake Erie in Pennsylvania and Ohio waters), which in 1896 was 8,223,900 pounds. Estimating that each fish taken weighed two and one-half pounds, we find that 3,289,560 whitefish were caught. Estimating that there are left in the waters threee times as many fish as are taken out, and that sixthirteenths of the fish are females, we find that there were 4,554,747 female fish producing eggs. Allowing an average of 30,000 eggs for each female, we find that 136,642,220,000 eggs were deposited naturally and produced only 3,289,560 mature fish. Thus we find that of 41,568 eggs deposited naturally, only one fish comes to maturity. Of course many things must be taken into consideration in making these estimates; and at best the estimates as well as the results obtained are barely approximate. Yet it gives us something of an idea of the vast

number of eggs that must be deposited by the natural process to produce a single mature fish. In making these figures, no account is made of the millions of whitefish fry annually planted by the several states and the United States.

Thus, after spending twenty-five years in the work of fish culture and propagation, I cannot but conclude that an enormous loss of fish of nearly all species occurs in the egg stage, because the eggs deposited by the female are not fertilized. The result is, our streams and lakes become depleted of fish within a short time after men with modern fishing apparatus begin to take fish from the waters for food. Nature's provisions for the survival and increase of the several species of fish are not adequate. To rectify this apparent error in Nature's laws we have resorted to artificial propagation with gratifying results. That we still have much to learn in this work we all agree. But at the same time, I believe that all fish culturists and people whose knowledge of the subject qualifies them to speak intelligently of it will admit the complete success of artificial propagation with many species of fish. I refer particularly to the stocking of streams, once barren, with brook and rainbow trout; and the planting of shad in the rivers both on the Atlantic and the Pacific coasts, facts with which we are all familiar. A few years ago, shad were unknown on the Pacific coast. A few thousand fry were taken from New York state and planted there. Today, shad are as plentiful on the Pacific coast as on the Atlantic. The planting of salmon fry in the rivers of the Pacific coast has done wonders in the way of increasing the salmon. Many other species have been made to increase and multiply very rapidly.

That whitefish eggs can be hatched artificially in large numbers, there is no question; and I hold that given, suitable planting grounds on which the proper food is found in sufficient quantities, and protection to the small partly grown whitefish, there is no reason why we should not have had the same suc-

cess in maintaining the supply of these fish as we have had with other species.

So much for artificial propagation.

Relative to the operation of laws providing for a close season on the great lakes, I call attention to the Province of Ontarion, Dominion of Canada. The Province of Ontario has had a close season for the fish of the great lakes for the past twenty-five years. The fish protective laws are much more rigidly emforced on the Canadian side of the great lakes than on our side. Recently, I have gone through the several annual reports of the fisheries department of the Dominion of Canada, to find the results of their close season for twenty-five years on the catch of whitefish for the province of Ontario from Lakes Superior, Huron, Erie, St. Claire, Georgian bay and Detroit river. I have compared the catch of whitefish in the Province of Ontario with the catch in the state of Michigan, which has less coast line than Ontario and has not had a close season until this year.

From the last biennial report of the commissioners of fisheries of the state of Michigan, I learn that from the year 1885 to 1893 there was a decrease of 35 per cent. in the catch of whitefish in that state. In the Province of Ontario, bordering on the same waters, for the most part, as the state of Michigan, and where, as I have stated, they have had a close season for twenty-five years, I find that from the year 1889 down to 1896 there was a decrease of 78 per cent. in the catch of whitefish, in spite of the fact that there were 5,400 more nets used in 1896 than in 1889. In 1889, the average number pounds whitefish caught in each net was 433. In 1896, the average number of pounds per net was 125, showing a much larger per cent. of decrease in the Province of Ontario with a close season. of twenty-five years standing than in the state of Michigan without a close season. I firmly believe that the reason the decrease in the catch of whitefish is much larger in Canadian waters than in the waters of the state of Michigan is, that the

Canadian people have not planted as many whitefish fry in the above named waters as the Michigan fish commission has planted.

Last year, I had the pleasure of taking a trip to Lake Winipeg and looking over the fishing industry, picking up what information I could relative to fish and fishing on that lake. Taking into consideration the laws in force in relation to catching whitefish, to an on-looker, it would seem that the whitefish could never be exterminated from Lake Winipeg. No pound nets are permitted in the lake, and no gill nets of less than sixinch mesh. Fishing with nets is not permitted within ten miles of the mouth of any river. All nets are taken out of the water on Saturday and are not reset until the following Monday. No small fish are caught. All the whitefish caught will average four pounds each. The government permits but a certain number of fathoms of nets in the lake at one time, and these must be used only on certain grounds. With these restrictions on fishing, it would seem that this lake should be productive of whitefish for all time to come. However, such does not appear to be the case. In talking with the foreman of one of the fishing companies at Selkirk, I asked him if whitefish are as numerous now as when he first went there, which was some twelve years ago. He replied: "when I first came up here, we would go out in the lake with a tug and I would hold up my fingers to the Indians to indicate the number of fish that I wanted. Every finger that I held up would mean one hundred fish, and they were off with their canoes and dip nets, and would get us all the fish we could carry on the tug. Today our tugs go up on the lake to the fishing grounds some two or three hundred miles to get their supply of fish.

If the government of Canada does not soon begin to plant large number of whitefish fry in this lake, in another decade, the whitefish of Lake Winipeg will be a thing of the past, in spite of the close season and the stringent laws which they enforce for their protection.

I consider a close season for fishing on the great lakes as being in the interest of the syndicate of fish dealers, who, while the fishing is closed for thirty days, are given an opportunity to dispose of their frozen fish which they have stored in their freezers in the northwest, to the disadvantage of the small fishermen on the lakes.

I believe that if it were not for the liberal planting of whitefish fry in the great lakes, the whitefish would have been practically exterminated years since. What we need is protection for the small fish; and artificial propagation will keep the lakes and streams well supplied with desirable food fish.





